

The
**DENTAL
DIGEST**

February
1932



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The DENTAL DIGEST

VOLUME 38

February, 1932

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EDWARD J. RYAN, B.S., D.D.S., Editor

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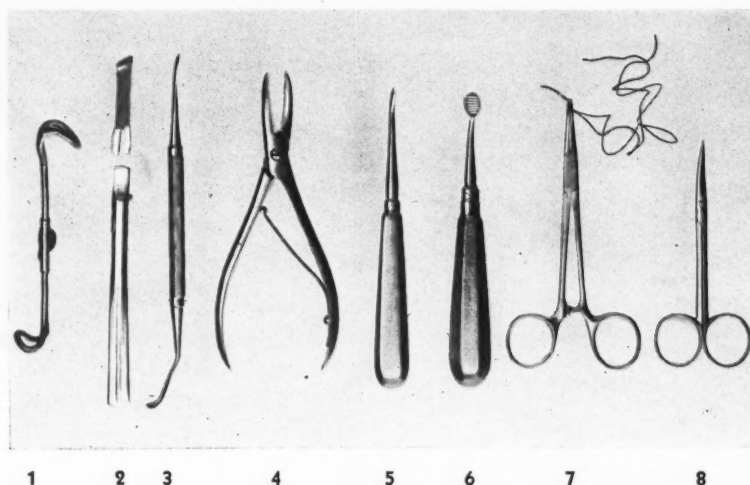
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SURGICAL CORRECTION OF ALVEOLAR RIDGE IRREGULARITIES AS AN AID TO DENTURE STABILITY

M. HILLEL FELDMAN, D.D.S.
New York



Instruments used in operation: (1) Cheek and lip retractor; (2) flap knife; (3) periosteal elevator; (4) rongeur; (5) curet; (6) bone file; (7) hemostat with suture needle, and (8) tissue scissors.

A SIMPLE surgical procedure in the hands of the general practitioner of dentistry may afford his patient much comfort in the wearing of an artificial substitute that requires ridge surface stress. Frequently a bony spine will remain at the alveolar crest in lieu of a rounded ridge outline. This causes instability of the denture and not a little discomfort and pain. The natural healing process can be materially helped along by turning back the mucoperiosteal tissues from the bone and trimming down the bone with rongeur, curet, bone file, and mounted engine stones. The instruments used in the operation are shown above.

The diagrammatic representation of the steps in the surgical technique are shown in figures 1, 2, 3, 4 and 5.

In Fig. 1, the incision outline is shown. The knife must cut down definitely to the bone. Thus, in reflecting the mucous membrane the periosteum may be carried along with the mucosa and not be lacerated. Healthy regeneration can attend only a proper readaptation of the mucoperiosteal flap at the conclusion of the operation. The periosteal elevator (the instrument used for lifting the periosteum from the bone) must not be too sharp lest the bone be scratched beyond the area to be operated upon. Postopera-

tive pain may result from such injury by the periosteotome.

In Fig. 2, the mucoperiosteal flap is shown retracted on the buccal side of the ridge. Fig. 3 shows the ridge crest exposed by having the mucoperiosteum on the lingual aspect of the bony ridge lifted slightly to the lingual. The rongeur is here applied to trim down the sharp alveolar spine. Fig. 4 shows the manner of using the bone file for finer trimming. If the ridge still feels irregular the mounted engine stones may be used to give a smooth rounded finish to the crest outline.

Fig. 5 shows the tissues readapted and sutured. If, in readapting the

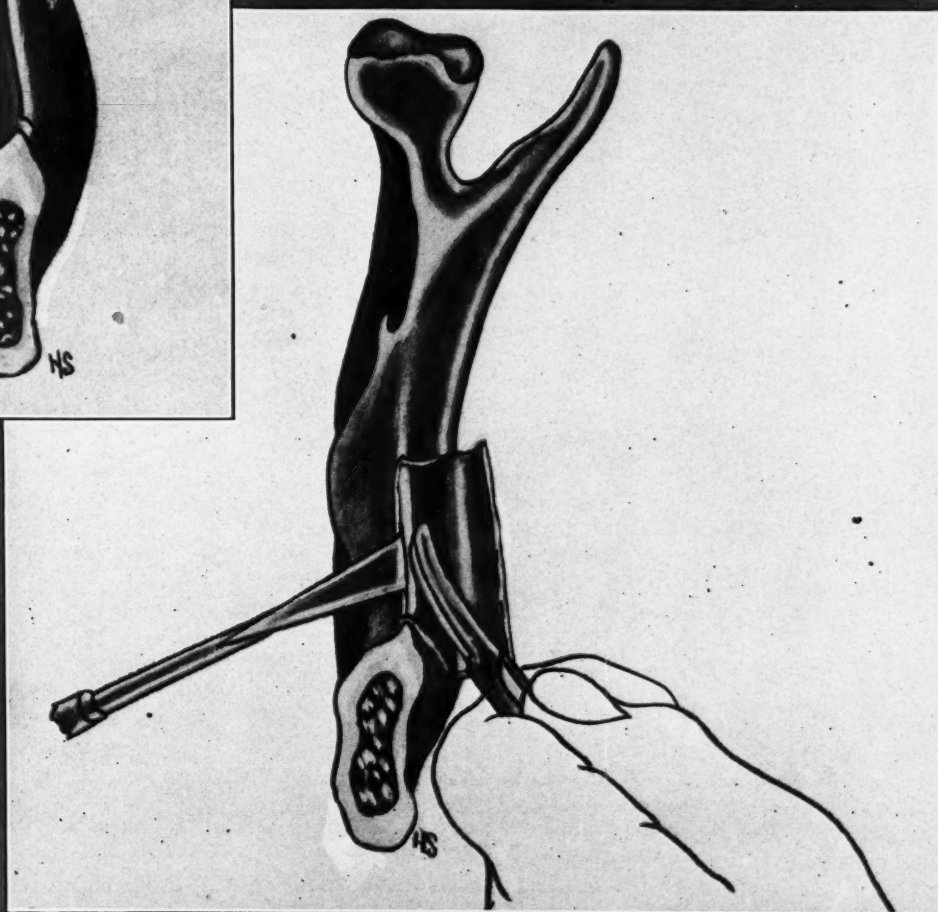
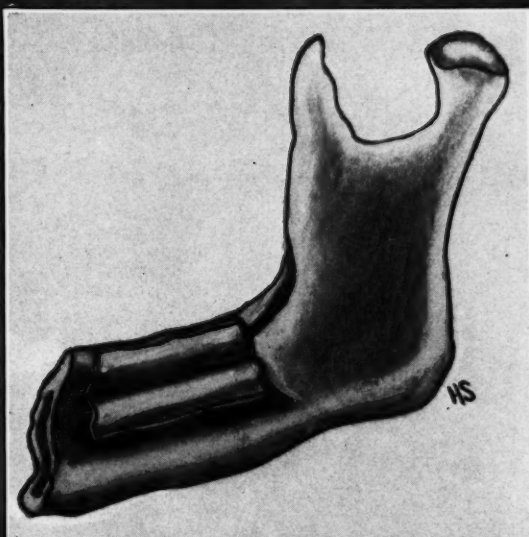
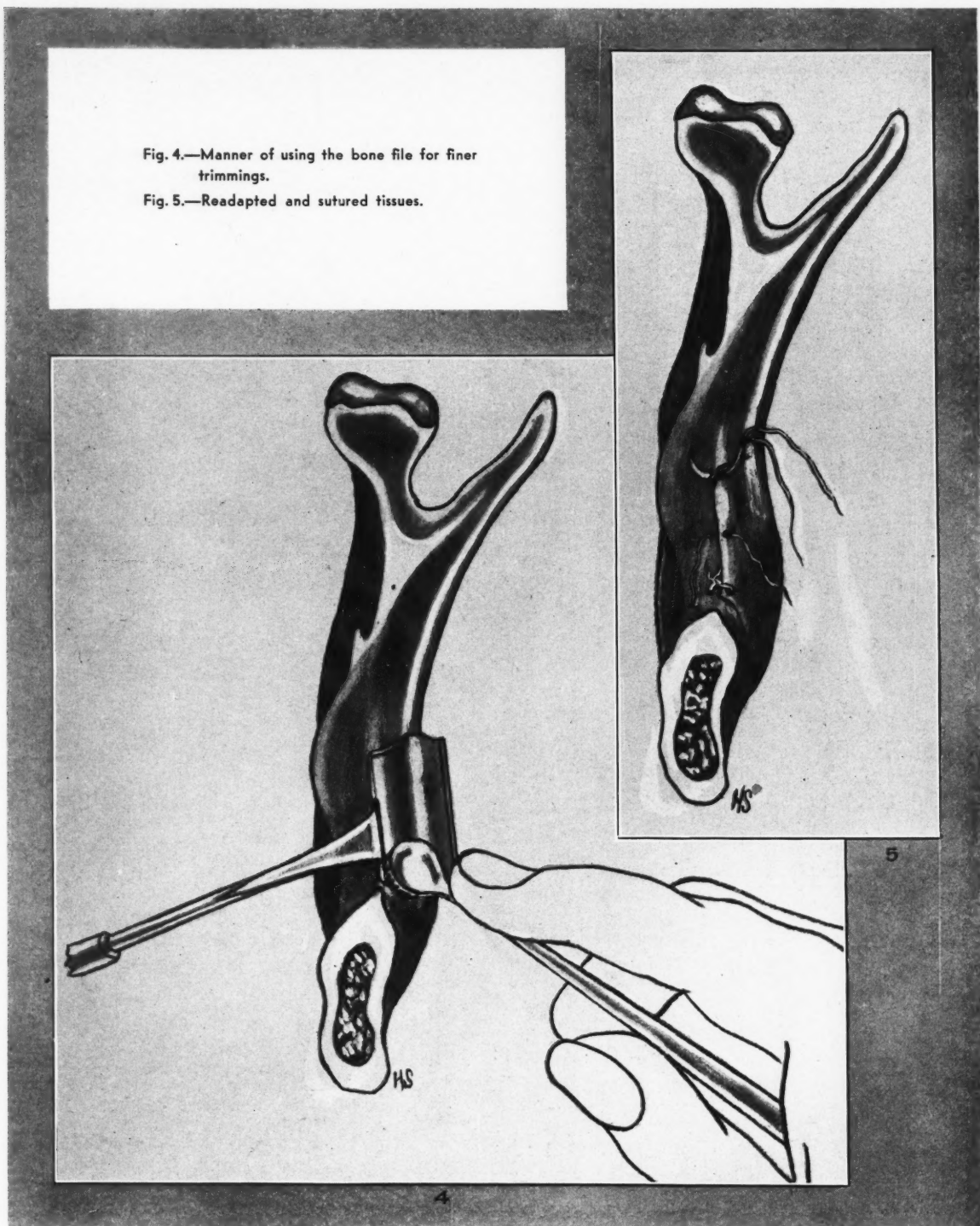


Fig. 1.—Incision outline.
Fig. 2.—Mucoperiosteal flap retracted.
Fig. 3.—Exposed ridge crest.

Fig. 4.—Manner of using the bone file for finer trimmings.

Fig. 5.—Readapted and sutured tissues.



flap, the operator notices loose contact of buccal and lingual tissue, he may cut off a narrow strip of mucoperiosteum either from the buccal alone,

or from both lingual and buccal flaps. This step is frequently important as a loose ridge may result from healing of superfluous tissue at this point.

While the diagrams indicate this operation for a posterior area, it has equal indication in all parts of the mouth.

PERMANENT STUDY CLUB HEADQUARTERS OF THE CHICAGO DENTAL SOCIETY

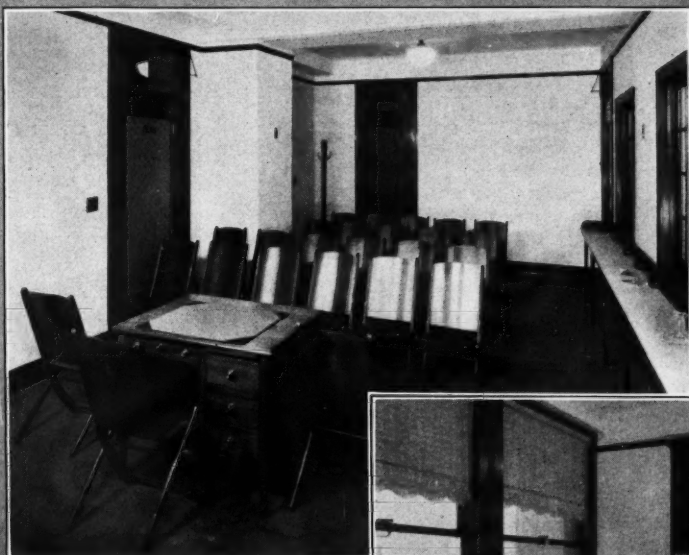


Fig. 1.—Lecture room.

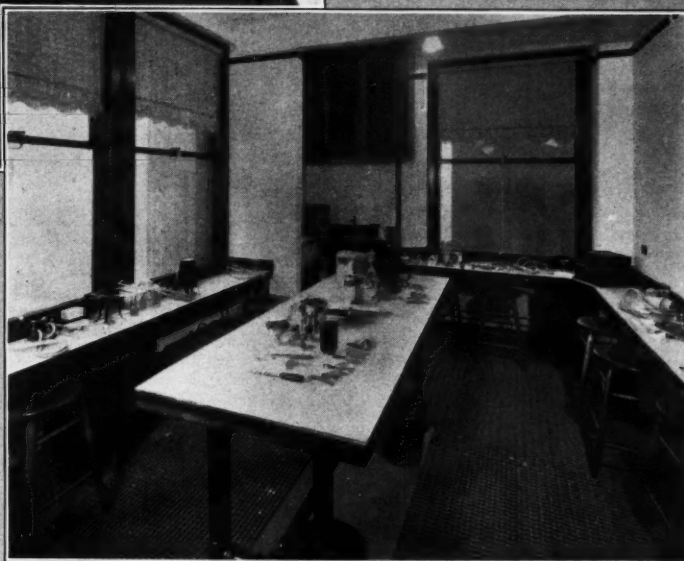


Fig. 2.—Laboratory room.

FUNCTION: To provide facilities for members of the Chicago Dental Society for study club work in the several departments of clinical practice.

FACILITIES: One thousand square feet on the nineteenth floor of the Medical and Dental Arts Building, 185 N. Wabash Avenue, Chicago. The space is divided as follows:

A. Lecture Room. Accommodates forty students with facilities for all forms of lecture and demonstration work. Also a bench fully equipped for twelve students

doing pathologic, research, or other microscopic work. Wardrobe.

B. Clinic Room. Completely equipped with four dental operating units and chairs. Linen closet and sterilizer.

C. Laboratory. Accommodates twelve students. Gas, air, and electricity outlets at each place. A large table in the middle of the room will be used for demonstration work by the teacher. Heating units, wax eliminators, casting machines, and electric furnaces are in this room.

D. Surgical Room. Fully equipped for all work in local and general anesthesia, exodontia, roentgenology, and minor oral surgery.

PLAN OF OPERATION:

A. Time. Classes will be given for a maximum of twelve sessions, each a week apart. Five evening and five afternoon classes will run simultaneously during three months, beginning February 1, 1932. It is the intention that students carry through practical cases themselves.

B. Expense.

1. To the student: Fifteen dol-

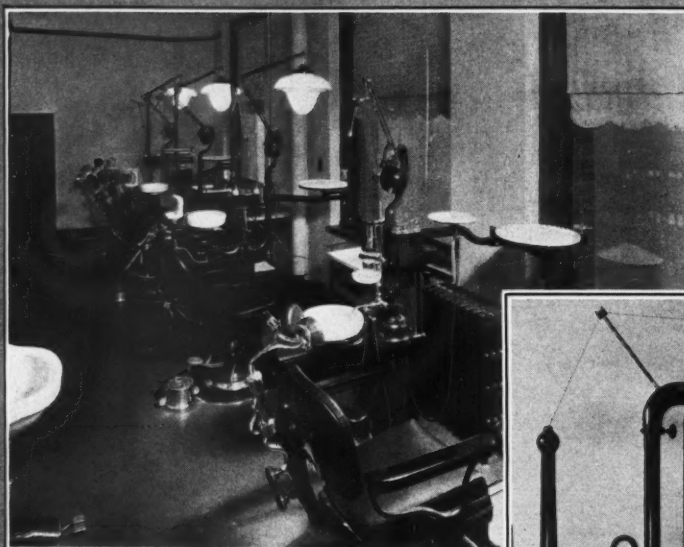


Fig. 3.—Clinical room.

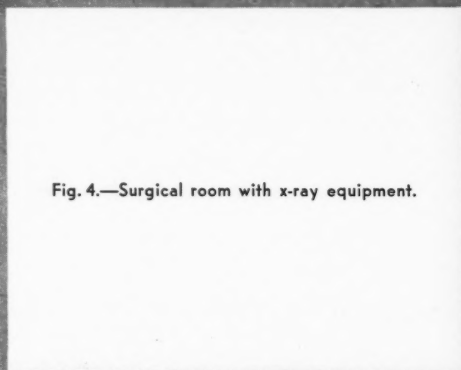
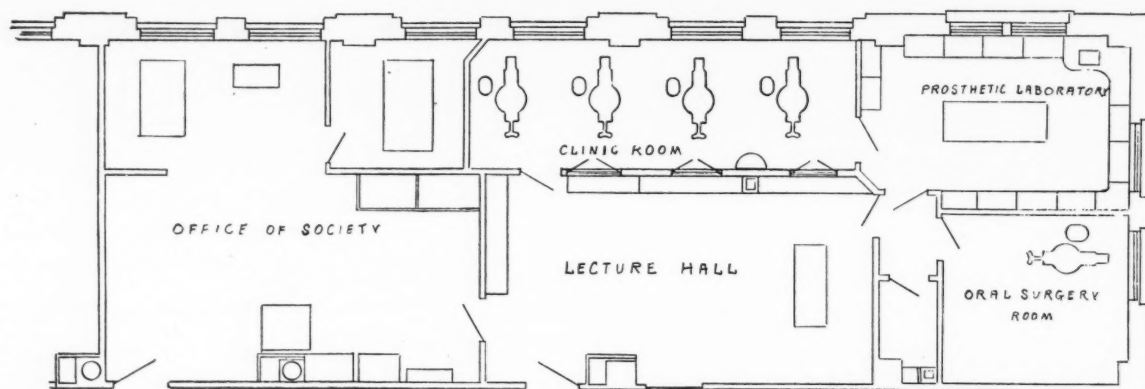
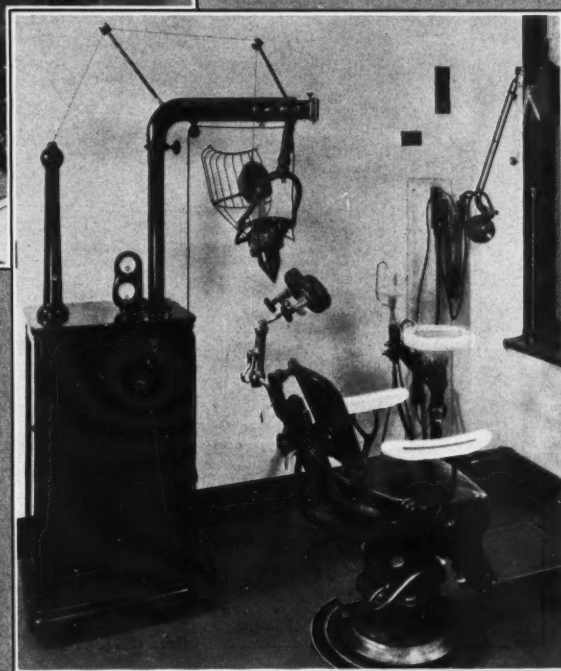


Fig. 4.—Surgical room with x-ray equipment.



Floor plan for Chicago Dental Society Permanent Study Club Clinic

lars for a practical course of twelve sessions.

2. To the society: An estimated expense of \$3500 a year, which will pay rent, operating costs, salary of attendant.

C. *Salaries.* A teacher will be paid at

the rate of one dollar per student per session. This will be paid from the student tuition fee.

Dental society officers wishing to learn more of the details of this project may write to the officers of the

Study Club Committee:

David W. Adams, D.D.S.

Chairman

Stanley D. Tylman, D.D.S.

Vice Chairman

F. van Minden, D.D.S.

Secretary

A MECHANISM OF INFECTION

CARROLL W. STUART, B.S., M.S., D.D.S., M.D.

Chicago

WHEN patients present themselves with dental and intra-oral infections, what potential systemic dangers are they harboring, and under what conditions will their resistance (barriers to infections) be the lowest?

This is not a new query or problem that is confronting the profession. As long ago as 1809 Doctor Benjamin Rush was searching for the answer. Since then, and more particularly as a result of the researches of the last twenty years, clinicians have been attempting to interpret the focal symptoms of disease in terms of the whole organism.

In many of the borderline cases of lower grade dental infection, it has been extremely difficult to recommend treatment.

What teeth should be saved? What teeth should be extracted? Do roentgenograms reveal sufficient evidence of disease? Is a pulpless tooth ever a safe tooth?

These are some of the questions that clinicians have approached with perplexity and occasional distress when they have attempted an evaluation of their patients' dental tissues in terms of the complete clinical picture.

For the most part, research workers have been engrossed in studies of the mechanism of the so-called periapical infections. It has been taken for granted that bacteria of periapical infections, which have not become encapsulated, pass directly into the adjoining blood and lymph streams, and thus may be carried to distant parts to set up pathologic disturbances or not, depending upon the resistance of the host and the virulence and number of the bacteria.

Within recent months, however, investigators have made important discoveries in the field of bacteriology which may possibly be another explanation of the mechanism of infection. These observations should be of particular interest to dentists.

Arnold and his colleagues have shown that under certain conditions bacteria pass from the mouth and throat (pyorrhea pockets, infected tonsils, sinus discharges) through the esophagus and stomach, into the ab-

sorbing zone of the small intestine, and are there picked up and carried into the blood and lymph streams. It is the purpose of the accompanying drawings to show the mechanism of such an invasion.

Fig. 1—Normal alimentary tract, with bacteria in the upper levels (mouth and esophagus) and in the lower levels (colon). Stomach, duodenum, and jejunum are practically sterile because of the antiseptic power of the normal gastric juice.

Fig. 2—Alimentary canal with bacteria in the stomach and the small intestine, showing the invasion of the blood system by organisms absorbed from the small intestine. The condition is produced by a decrease in the hydrochloric acid in the stomach (senility, carcinoma, pernicious anemia, etc.).

Fig. 3—The end-result of bacterial invasion showing the tissues likely to be involved.

Regardless of whether bacteria enter the blood stream directly from a periapical abscess, pass by way of the lymph stream to the blood, are absorbed through the gastro-intestinal tract, or enter the circulation through a cut in the great toe, there are antibodies in the normal blood which tend to destroy them. These protective bodies (barriers) are decreased in numbers in patients of advanced age, during chronic debilitating diseases, as well as during conditions of anemia, pregnancy, and diseases of the kidneys. Whether an infection results or not is dependent upon *Virulence and Number of Bacteria versus Resistance of the Host*.

The normal alimentary tract is sterile at birth but within the first few hours it becomes contaminated. The oral cavity, with its secretions from the contiguous glands which react as neutral or slightly acid media, has some destructive action upon bacteria.

The mechanical removal plays the most important sterilizing rôle and consists of expectorating and swallowing. When bacteria are swallowed they start on their journey to the blood stream only to be interrupted, in normal individuals, by the acid of the stomach which destroys them. Bacteria can, however, pass through

this barrier to the lower levels when they are mechanically protected by food.

Obviously, a decrease in the strength and amount of the gastric acid will allow more organisms to pass on uninterrupted. It is found decreasing in both strength and amount as the patient grows older until it becomes almost lacking in advanced old age. There are also certain pathologic conditions in which the acid is decreased in strength. For some unknown reason the hydrochloric acid of the stomach becomes decreased when the patient suffers with chronic suppurative intra-oral infection, such as pyorrhea, in pernicious anemia, and in cancer of the stomach in which the free acid is often entirely lacking. These are pathologic conditions in which the bacteria which are swallowed may be expected to pass more or less freely through the stomach.

In the normal fluids of the duodenum, the reaction is alkaline during digestion and slightly acid during the postdigestive or resting stage. Either of the reacting fluids has little power to destroy bacteria.

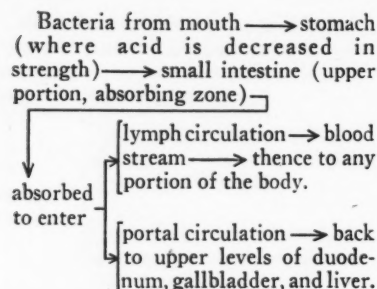
The duodenum and jejunum make up the absorbing zone of the intestine, so called, because the wall of this portion of the tract is permeable to digested food and allows it to pass through into the lymphatics to reach the blood stream by way of the thoracic duct which empties into the left subclavian vein; or the food may pass directly into the blood of the portal vein to be carried back to the upper levels of the duodenum as well as to the gallbladder and liver.

But food alone is not the only element so absorbed. Bacteria may be absorbed through this area with the digested food and thus be carried either through the lymph circulation to the blood and then on to any portion of the body, as the central nervous system, the joints, the kidneys, and the heart, or they may pass directly into the portal circulation and back to the upper levels of the duodenum, gallbladder, and liver.

It is obvious, therefore, that under conditions not at all uncommon bacteria may start on these journeys from

the mouth, be carried through the stomach unchanged, and enter the absorbing zone (duodenum and jejunum) where they pass through the intestinal wall and into the blood stream to do mischief in almost any portion of the body.

A diagram of the mechanism of such a process might look something like this:



In the lower intestinal tract and under normal conditions there are to be found bacteria which increase in numbers and strains from the lower end of the jejunum downward until in the colon it is said that these organisms and their products make up from 20 to 50 per cent of the intestinal contents. During increased temperatures of climate or body fever, there is an ascension of the bacteria into the absorbing zone where they find their way into the blood stream to complicate the diseases already existing.

This fact should strike us with force: The human organism may be attacked from above by bacteria descending from the mouth or it may be attacked from below by bacteria ascending from the colon. In one case (descending) the attack is possible only when the stomach acid is decreased in strength; in the other case (ascending) external temperature and the fevers associated with various diseases may make the attack possible.

Recent investigations have placed more responsibility upon the dentist than ever before. All infections around the apices of the teeth and in the oral cavity should be eliminated or the patient should be warned of the dangers and directed to keep rather close watch of the conditions by subsequent examinations. All such infections should be considered frankly detrimental in patients who are suffering from gastritis, arthritis, enteritis, gallbladder disease, and in the presence of diseases of the kidneys, especially when the patient is advanced in age.

In early pernicious anemia the intra-oral lesions should be eliminated before the resistance of the patient is so low that it renders the surgical

procedure impracticable or of hazardous value. The same precaution should be taken in patients in whom a cancer of the stomach is suggested—not that removal of the teeth will cure the disease, but merely because it will maintain the resistance of the patient at a higher level.

In the light of the recent discoveries it would be well if the profession began to place more emphasis on the potential dangers of dental supporting tissue disease (pyorrhea). Too often diagnosticians have been thinking in terms of periapical disease alone and have passed over the possible systemic dangers that lurk in an unclean mouth and the consequent harm that may come from the direct passage of bacteria from the mouth to the absorbing zone of the small intestine.

It is well known, however, that often oral manifestations of systemic diseases are found which do not lend themselves to treatment and these are the difficult cases in which to render a proper decision and exercise good judgment. It is not improbable, although still unproved, that many such cases may be produced by the absorption of bacteria that have ascended from the lower levels of the gastrointestinal tract. A possible hypothesis might be:

Bacteria in colon → ascending (external temperatures or fever) → absorbed in walls of duodenum and jejunum → enter blood stream → carried to distant parts, including the end-arteries of the gingival tissue there to set up an inflammatory reaction.

Feeling that it would be of little clinical value to the majority of practitioners, I have purposely refrained from discussing the types and strains of bacteria found in the various dental and oral lesions.

Experiments have been made in which bacteria have been given to dogs by mouth and regained in eighteen minutes from the thoracic duct as they were ready to enter the blood stream. Organisms injected into the femoral artery were found in the liver in half an hour.

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The Mechanism of Bacterial Invasion

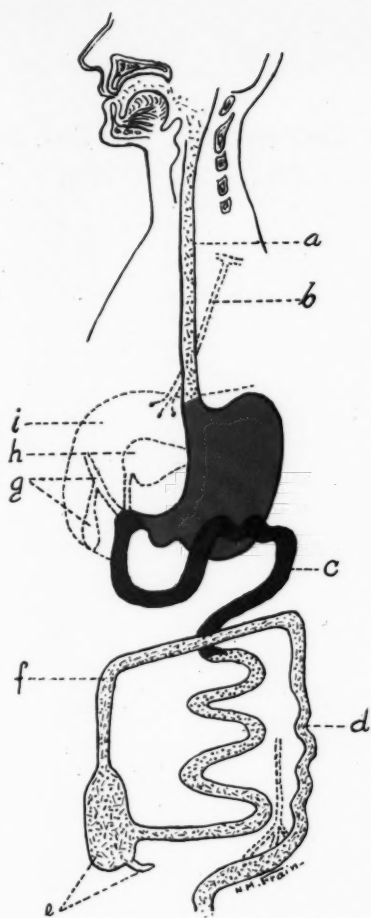


Fig. 1.—Schematic Illustration of Alimentary Tract with Normal Levels of Bacteria.

- A. Esophagus carrying bacteria to the acid stomach.
- B. Thoracic duct emptying into the left subclavian vein.
- C. Duodenum and jejunum are the absorbing zone.
- D. Large intestine showing levels of gram + and gram - bacteria.
- E. Cecum and appendix containing bacteria.
- F. Colon containing organisms.
- G. Gallbladder and ducts.
- H. Pancreas.
- I. Liver.

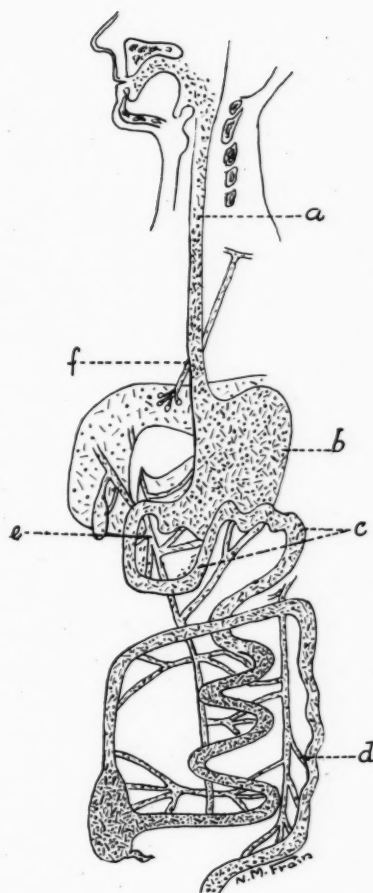


Fig. 2.—Schematic Illustration with Dispersion of Bacteria Under Abnormal Conditions.

- A. Esophagus carrying bacteria to the stomach.
- B. Stomach containing bacteria from the mouth, also some ascended from the lower levels.
- C. Absorbing zone with bacteria passing through the walls into the blood and lymph streams.
- D. Blood vessels carrying bacteria and toxins to the colon.
- E. Blood vessels carrying bacteria up to the gallbladder and liver as well as lower levels of the tract.
- F. Thoracic duct carrying bacteria from the lymph vessels of the absorbing zone to the subclavian vein.

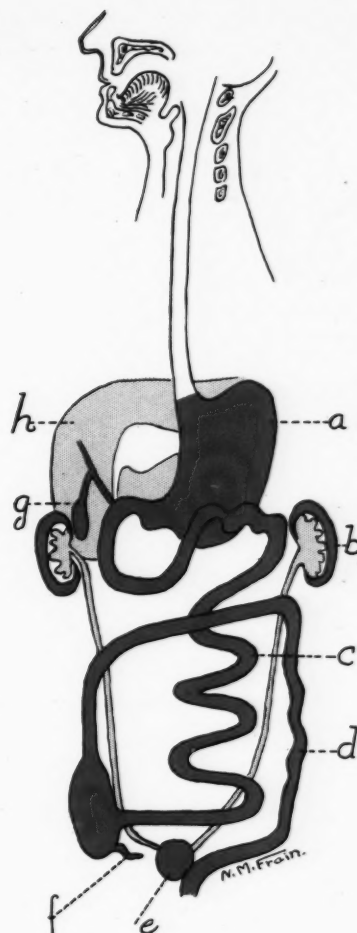
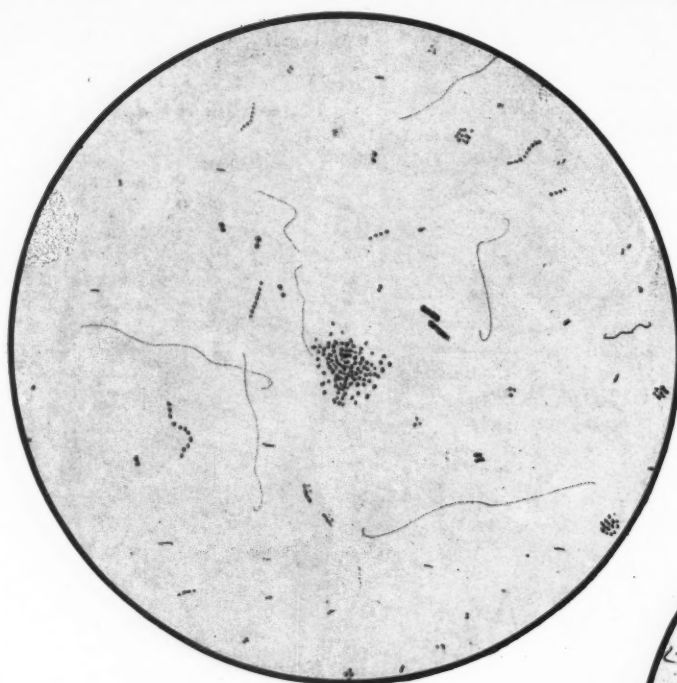


Fig. 3.—Schematic Illustration of Structures Which are Subject to Inflammation and Infection when Pathogenic Bacteria Reach the Blood Stream.

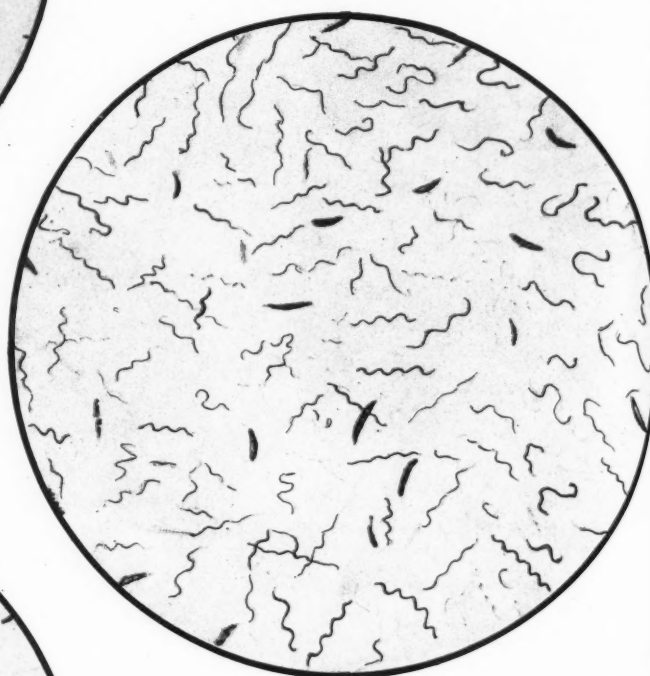
- A. Gastritis.
- B. Nephritis.
- C. Enteritis.
- D. Colitis.
- E. Cystitis.
- F. Appendicitis.
- G. Cholecystitis.
- H. Hepatitis.

THE LABORATORY PICTURE OF VINCENT'S INFECTION

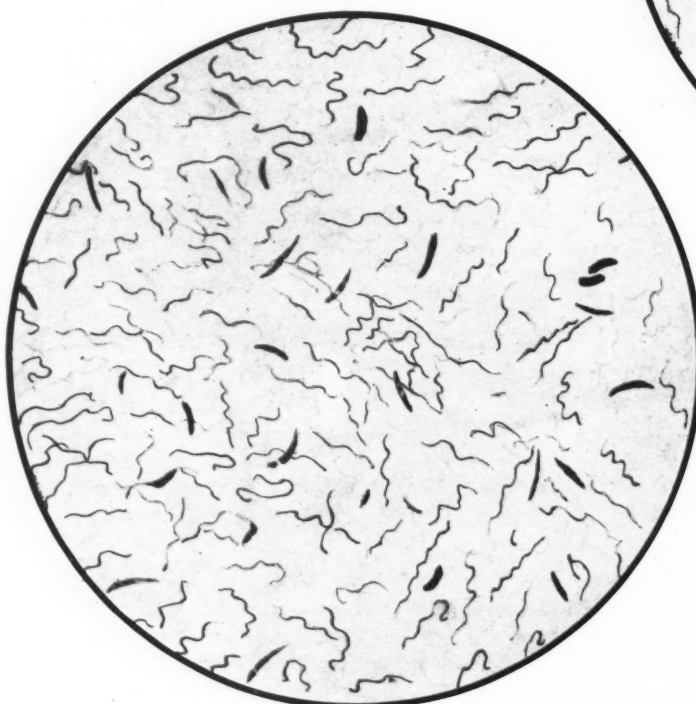
Left—Normal



Right—Gentian Violet



Left—Methylene Blue stain of Vincent's Spirochetes
Fusiform Bacilli



THE CLINICAL PICTURE OF VINCENT'S INFECTION

MAYNARD K. HINE, D.D.S., Chicago

ACUTE ULCERATIVE GINGIVITIS

SYNONYMS—Trench Mouth—Vincent's Infection—Necrotic Gingivitis—Spirochætal Stomatitis—Ultero-membranous Stomatitis

DIAGNOSIS:

Local Symptoms:

1. Gums—Inflamed
Tumified
Gnawing Pain
2. Gingival Ulcerations
3. Pasty Grey Slough
4. Fetid Odor
5. Increased Salivation (viscid)
6. Adenopathy (Submaxillary)
7. Wedging Sensation
8. Lesions on Lips—Tongue
9. Metallic Taste

General Symptoms:

1. Fever—99°-102°
2. Accelerated Pulse
3. Malaise
4. Mental Depression
5. Loss of Appetite
6. Sudden Onset
7. Restlessness
8. Insomnia
9. Headache
10. Pallor
11. Constipation

MICROSCOPIC OBSERVATIONS:

A. Presence of Innumerable:

1. Spirocheta Vincenti—

- 5-8 Shallow—Irregular Curves
- Gram Negative
- Anaerobic
- Saprophytic

—With—

2. Bacillus Fusiformis—

- Cigar-Shaped Rod
3-10 x .5.8 Microns
- Anaerobic
- Saprophytic
- Gram Negative

B. Scarcity of Other Organisms of Mouth

DIFFERENTIAL DIAGNOSIS:

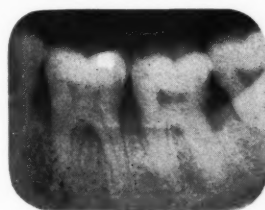
1. Diphtheria—Bacteriologic Examination (Neisser Stain)
—Membrane Harder to Remove

2. Mercurial Stomatitis—History. Pigment

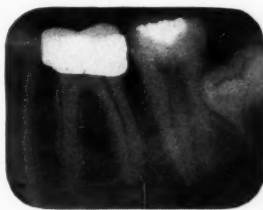
3. Pernicious Anemia—Blood Picture
—Clear Sclera
—Lemon Yellow Skin

4. Scurvy—History—Subperiosteal Hemorrhages

(To next page)



1



2



3

Primary Incubation Zones for Acute Ulcerative Gingivitis

Fig. 1.—Pockets around teeth.

Fig. 2.—Poor margin on crown.

Fig. 3.—Overhanging margins of fillings with resulting pocket formation.

(See colored photomicrographs on opposite page)

ETIOLOGY:Predisposing Causes:Local:

- Irritation—Calculus
 - Malocclusion
 - Improper Contacts
 - Faulty Restorations

Primary Incubation Zones

- Gingival Flaps
- Peridental Pockets

Oral SepsisGeneral:Lowered Resistance

- From—Malnutrition
 - Faulty Diet
 - Alcoholism
 - Diabetes
 - Syphilis
 - Cancer
 - Metallic Poisoning
 - Influenza

Exciting Cause

Invasion of Gingivae (of Low Resistance)

1. Infection from—Drinking Cups
 - Towels, Etc.
 - Kissing
2. Invasion of Organisms of Patient's own Mouth

TREATMENT—of a Typical Case

1. Remove Bacterial Element
2. Raise General Resistance
3. Check All Irritation

I—Treat Acute Symptoms

Flush with Warm Iodo-Saline
 Hydrogen Peroxide
 Mild Alkaline Antiseptic
 Ultraviolet
 Compound Tincture Benzoin

Home Treatment—Rest

Calomel.
 Saline Cathartic.
 Soft Diet + Oranges.
 Na-Perborate
 Isolate. Force Fluids.

II—Visits—Remove Membrane—Repeat I

When Acute Signs Leave Remove Irritations

III—Follow-Up—Incubation Zones

Do Not Scale Teeth, Give General Anesthetics, Nor Perform *Any* Surgery While Acute Condition Exists

COMPLICATIONS

1. Development of Chronic Gingivitis
2. Noma—or Gangrene
3. Pulmonary Gangrene

PROGNOSIS

1. Good—5-14 Days
2. After-Effects:
 - A—No immunity
 - B—Gingival Crests Destroyed.



4



5



6

Primary Incubation Zones for Acute Ulcerative Gingivitis

Fig. 4.—Impacted molar with overhanging mucous membrane; poor crown.

Fig. 5.—Malposed teeth.

Fig. 6.—Partially erupted third molar with overhanging flap of mucous membrane.

HOW TO MAKE AN X-RAY TABLE FOR DENTAL USE

E. L. JONES, Jr., D.D.S.
Albany

THERE is no doubt that the general practitioner in the near future will be compelled to go a little further in the use of the x-ray machine for diagnostic work.

The small intra-oral film does not show enough area to picture to us definitely the extent of any pathologic process found, for instance, in the bones of the face. This is particularly true of fractures of both the maxillae and mandible.

It has been shown in various papers that 90 per cent of periapically involved upper teeth, posterior to the first bicuspid involve the antrum to some degree.

If this is true, then extra-oral pictures showing larger areas of the skull must be obtained in order to arrive at an intelligent diagnosis.

It is my experience that good extra-oral roentgenograms cannot be obtained when the patient sits in a chair, nor can they be obtained on the ordinary x-ray table, unless a great deal of costly equipment is secured.

Because of this, I designed an x-ray table to meet what I think are the demands of the general dental practitioner.

When the table is used in the taking of extra-oral roentgenograms, the following angles are all that I find necessary: 0° to 13°, 17° to 23°, both plus and minus. The use of these angles and the placement of the head in proper positions will give accurate delineation of the anatomy of the head, viz., mandible, antrum, ethmoid sinus, frontal sinus, sphenoid sinus, mastoid sinus, and all the bones of the face and head. It also covers the following positions: anterior-posterior positions of the head, lateral position of the head, and lateral of the jaw.

The table is made essentially of four parts:

1. The table proper.
2. The hinged section.
3. Locking device.
4. The meter or dial to register the angle at which the hinged portion is to be in relation to the horizontal surface of the table proper.

The accompanying drawings will give a more accurate idea of how the

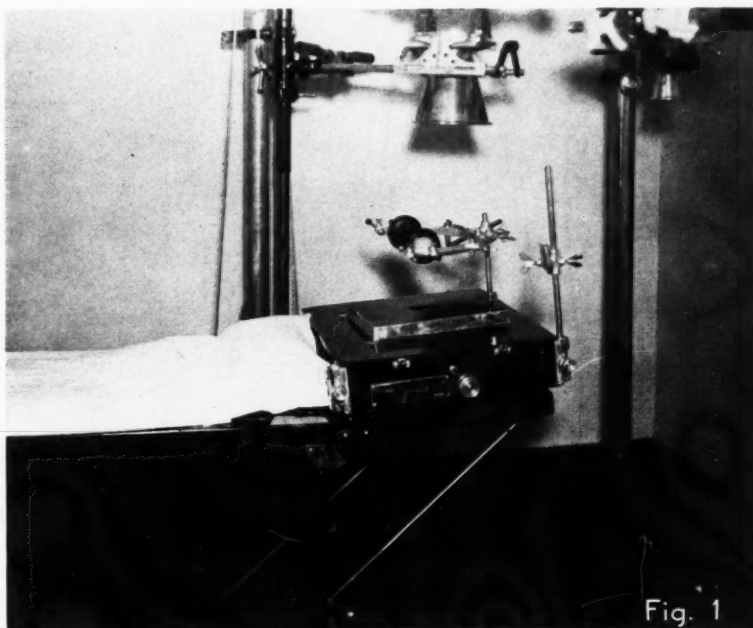


Fig. 1.—The complete assemblage. More particularly, the mounting of the Potter-Bucky Diaphragm and angle meter device secured to the side of the table. It also shows the supporting rods.

whole apparatus is put together and how it operates.¹

1. The table proper may be any ordinary x-ray table or other table 70 inches long, 22 inches wide and 27 inches high. The one I have is mahogany and inexpensive.

2. The hinged section is built out of stock, about one inch thick, and stained. It is 22 inches wide and 18 inches long. This is hinged to the table proper by two ordinary brass hinges of fairly heavy design. On this section I have mounted a Potter-Bucky diaphragm. I like this diaphragm for all extra-oral work, as it gives much better contrast. However, many dentists prefer to take negatives using cassettes. It is only a matter of choice.

On the outer edge of the hinged section there are two depressions, in which rest, but not secured so as to allow movement, ball and socket fashion, the two supports. It will be no-

¹This idea is neither copyrighted nor patented and any practitioner of dentistry is more than welcome to its use if it appeals to him in any way.

ticed that detail 1 of sections C and D, when locked in locking device (detail 2), holds the hinged section in the predetermined position.

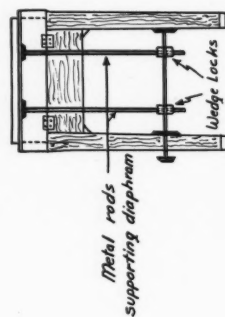
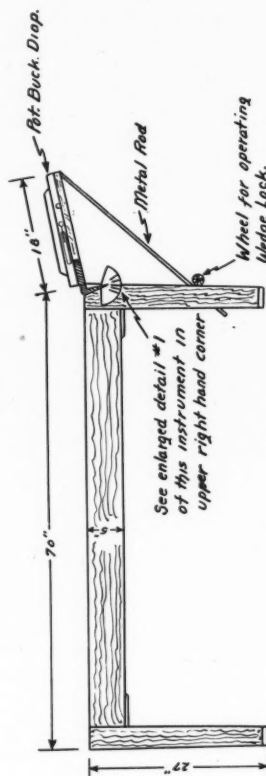
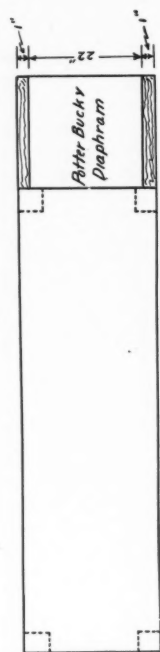
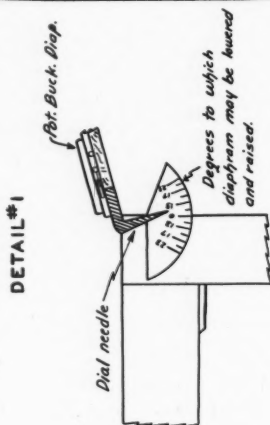
3. The locking device is detailed in the accompanying drawing, labeled detail 2, and is thus explained fully.

4. The meter or dial is simply a piece of metal, nickel-plated, cut from a circular piece on which have been established marks denoting, 0°-13°, 17°-23°, and attached to the table leg. Any draftsman can lay out this meter in a short time (detail 1). The pointer is another piece of metal pointed at one end and fastened to the hinged section so that when the pointer is at 0° on the dial, the table and hinged section are level and in a straight line.

By turning the knob "D," the table end is unlocked. Then it may be placed at the desired angle, 0° to 13°, or 17° to 23°, and locked. The table is then ready for the patient to be placed in position for whatever exposure is required.

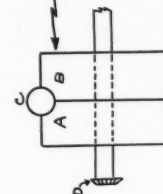
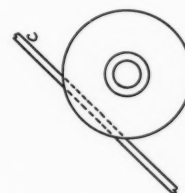
Of course, the angles mentioned here are the angles I find most used

XRAY TABLE



See enlarged detail #2 (below) for Wedge Lock.

DETAIL #2



Parts 'A' & 'B' separate and close by use of wheel 'D'. When closed tightly, rod 'C', holding diaphragm is locked within the two parts, 'A' & 'B'.

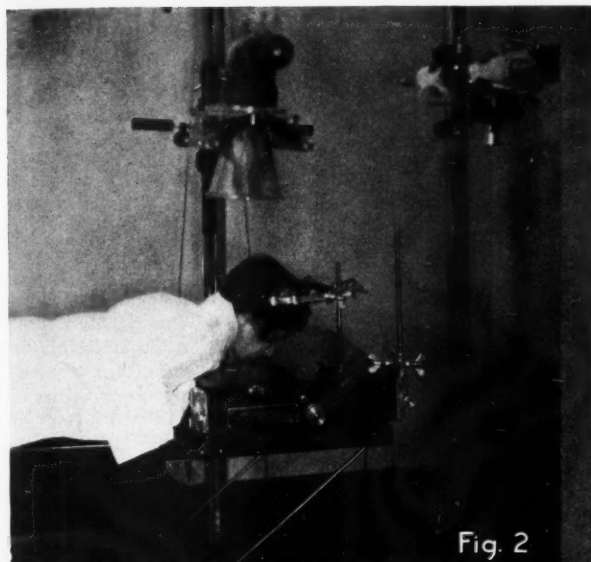


Fig. 2

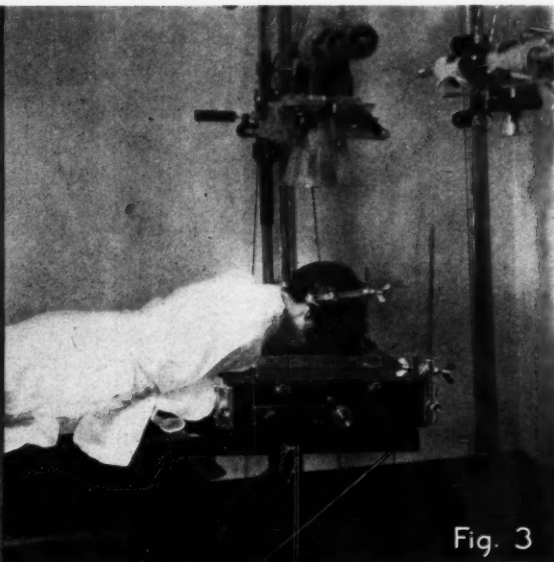


Fig. 3

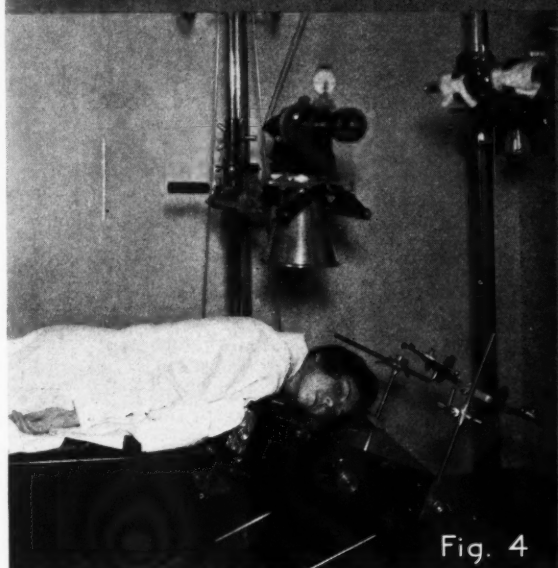


Fig. 4

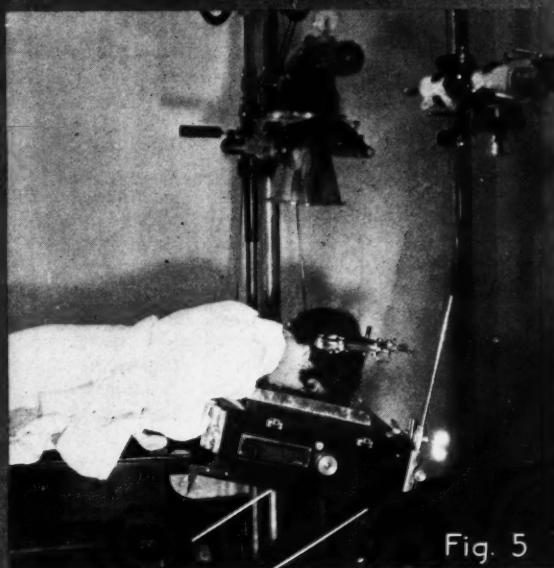


Fig. 5

Fig. 2.—Table in operation for sinus. Angle meter registers 0'. Patient is in the nose-chin position. This picture will delineate nasal accessory sinuses.

Fig. 3.—This is the same as Fig. 2, except that the Granger mask is used. This position will give a good detail of maxillary sinus (antrum of Highmore). This position is not recommended for anything else.

Fig. 4.—Table and patient in position for a lateral jaw picture. Angle meter now registers minus 23'. By rotating the head anteriorly various positions of the mandible will be registered on the film.

Fig. 5.—Author's interpretation of the Granger positions for ethmoid and particularly sphenoids. The table is tipped so that the meter registers minus 17'. Patient's nose is inserted in the hole in Granger mask—chin and forehead in contact with the mask.

by myself; however, any one of a hundred or more angles could be obtained, depending on the pleasure of the operator. The side to side angles that are often necessary to use are taken care of by tilting or rolling the patient's head.

SUMMARY

The table is efficient; in fact, all roentgenography, both intra-oral and extra-oral, can be handled with much less effort to the operator and more comfort to the patient on the table

than in any other position, particularly in the chair.

The cost of the apparatus described here is slight. The whole assembly can be made for less than \$50, including the table but exclusive of the Potter-Bucky diaphragm.

SHOWING THE PATIENT

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THE business of the dental profession is to serve—to serve in three particular respects; that is, (1) by relieving pain, (2) by repairing injury, and (3) by teaching prevention. Dental medicine, surgery, and restoration have been fairly well mastered, but sufficient advancement has not been made in teaching preventive dentistry.

It has been estimated that of the \$446,000,000 spent in 1929 for dentistry, only about 2 per cent went for prevention while approximately 98 per cent was spent for the repair of neglected teeth. If these teeth had been cared for in time, the patients would have been saved much pain and expense, to say nothing of the loss in appearance. Such a situation is decidedly out of all reasonable proportion. It exists largely because the dental profession is mechanically-minded. This is evidenced by the interest shown at dental meetings in the predominance of mechanical clinics and demonstrations.

The dentist's duty as a teacher of prevention has been neglected partly because of the indifference of the public which cannot learn, in this instance, by collective suffering. The dental problem is one of individual concern. As the dentist's audience is confined to one patient at a time, he tires of the endless repetition of the health story, and sooner or later ceases to repeat. If the dentist can show the patient quickly, by visual presentation, the facts concerning his particular dental ailments, he will have advanced somewhat in his efforts to teach preventive dentistry.

The old-time dentist said, "Listen," and consumed much valuable time and still left the patient in doubt; the modern dentist should say, "Look," and, with models or pictures, in a short time satisfy the patient's questions about what is wrong with his teeth and the corrective procedure that will be instituted. It is my belief that when people have been educated to the full realization of the health and comfort that dentistry can afford them, they will no longer dread and postpone visits to the dentist, but will avail themselves of that part of the dentist's time which, under present conditions, is unproductive.

Reprints of the five following pages, printed on heavy paper and bound in pamphlet form, may be ordered from The Dental Digest, 1125 Wolfendale St., Pittsburgh, Pa. Prices: Each, 15c; 10, \$1; 25, \$2; 50, \$3.50; 100, \$6.50. Remittance should accompany order.

It is a common occurrence for someone to enter a dental office and say, "Doctor, I have some x-ray pictures here I want you to look at and tell me what you think." My first thoughts are: "You want me to *look* at them and *give* you a free diagnosis and opinion. You do not trust nor accept the thought of the diagnostician whom you employed to make the roentgenograms. You have already had many free opinions by other dentists to which you wish to add mine before you mix these varying opinions and then shuffle and draw, or take your choice and then conclude that x-rays do not mean anything anyway, and nobody knows anything about them after all. I also think it is quite possible that even the films may not have been paid for, and I do not wish to aid an imposition upon a fellow dentist."

But I do not say these things aloud. Instead I ask the patient: "Who made your films? Why did you not get a diagnosis? That is what you paid for, not for some pictures." The patient invariably replies, "But I wanted the opinion of someone else." The following conversation is then apt to take place:

"Why did you not select someone in whom you have confidence to make your examination?"

"Well, this one doesn't charge as much as some of the other dentists."

"No, I assume not, but neither does he do as much work. There is not the full number of films here with sufficient information on which to base a diagnosis; they are not mounted in their proper relation to one another, and an opinion under such conditions would be of questionable value. Before I would attempt a

diagnosis for you I must have a complete set of films, properly assembled on a mount, showing the details of the dental structures without blurring and without elongation and shortening. I would list my observations in writing and take your own history of the case into consideration. Your physician would not hazard a diagnosis based on the physical observations made by another physician. If you want pictures, they can be had anywhere. What you want is accurate information and a diagnosis."

"Well, won't you just look at them and —"

"Make a guess? No, I would have to mount your films, make some additional ones, and charge you for a diagnosis which would cost you as much as it would have if you had had the work done completely in the first place, but would be of doubtful worth."

Deliberate guessing should not be a part of dental practice. I conclude the interview, therefore, by suggesting to such a patient that he go back to the dentist and tell him that a complete diagnosis is desired. I encourage the patient to have confidence in what his dentist tells him.

The following questions and answers with the accompanying illustrations are common to the experience of every general practitioner in dentistry, and, if tactfully presented in printed form to the patient, will make an indelible impression and will spur the patient to action in a manner that could not be brought about by the spoken word. For example, when a patient returns with a fully developed case of Vincent's infection (acute ulcerous gingivitis) following the surgical removal of an impacted wisdom tooth, he is the more readily convinced that his case is not unique if he is shown a picture with the printed explanation that an impaction is an ideal focus for Vincent's infection and that this is not an unusual occurrence. He is much less likely to feel that he has received the infection in the dental office at the time of the operation, and expect or demand a free treatment for Vincent's infection. The patient more readily believes what he sees and reads, I believe, than what the dentist tells him.

SOME TYPICAL QUESTIONS AND THEIR ANSWERS

1. *Doctor, it's only a baby tooth and has no roots. Why do you advise an anesthetic for extracting it?*

Because the roentgenogram (Fig. 1) shows unabsorbed, flaring roots, which are difficult to extract and involve considerable risk and great pain. If an anesthetic is not used, the pain will engender a dread of dentistry.



Fig. 1.—Unabsorbed, flaring roots.

2. *Why do you say the risk is so great in extracting some teeth in children?*

The risk is great because a valuable, permanent tooth nestles between the roots of deciduous teeth, and much precaution and skill is necessary to avoid injury (Fig. 2).

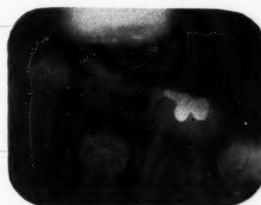


Fig. 2.—Roentgenogram showing permanent tooth lying between the roots of baby teeth.

3. *I never did shed this baby tooth. Do you suppose it's all right?*

If you haven't your full number of teeth, better check up. Impacted teeth (Fig. 3) are a grave menace and sometimes cause serious trouble in that they may cause referred pain in other parts of the head or face; they may become infected and destroy the surrounding bone, and they may produce pressure upon other teeth causing soreness.



Fig. 3.—Impacted tooth.

4. *How should a healthy condition appear in the x-ray?*

If the conditions are normal there is no evidence of a break in the structure of the enamel; there is no bone destruction at the root end, and no evidence of pus pockets (Fig. 4).

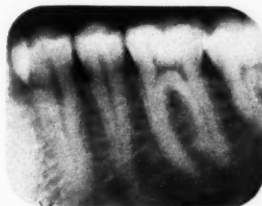


Fig. 4.—Appearance of normal teeth.

5. *My teeth have never given me a particle of trouble. Why x-ray them?*

Although the teeth may not cause any discomfort, they may be pus-soaked and injure the patient's health (Fig. 5). Absence of pain is not sufficient indication of freedom from infection.

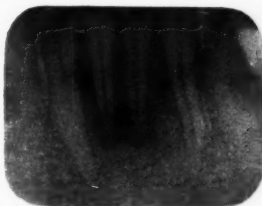


Fig. 5.—Pus soaked teeth which injured patient's health without causing discomfort.

6. *I haven't a tooth in my mouth. Why x-ray before making plates?*

At the Mayo Clinic, in a group of patients affected with serious systemic conditions, 31 per cent were found to have roots, unerupted teeth and "pus sacs" under their plates. Immediate recovery followed their removal in 1,200 cases. X-ray examination can be refused only at the patient's own risk (Fig. 6).



Fig. 6.—Unerupted tooth under plate revealed by roentgenogram.

7. Why do you x-ray the teeth before making a bridge?

It is necessary to take roentgenograms before making a bridge in order to determine the condition and position of the teeth, the number and shape of the roots, and particularly to make certain that there are no infections in the teeth which are to carry the bridge (Fig. 7). Fig. 7 is an example of what happens when an expensive bridge is placed upon abscessed teeth which are comfortable but undermine the patient's health. In this case the bridge was lost.

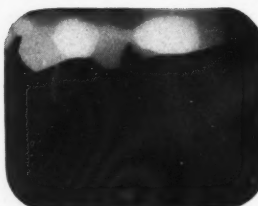


Fig. 7.—Bridge placed upon abscessed teeth. Bridge was lost.

8. How does a pyorrhea pocket start?

By irritation which was produced, in this case (Fig. 8), by deposits of tartar beneath the gums which in turn caused inflammation. A pus pocket formed and that in turn destroyed the bone.



Fig. 8.—Pyorrhea pocket.

9. What does pyorrhea do to the bone?

Gradually and painlessly pyorrhea destroys the bone until the tooth is lost for lack of support. Lost bone support cannot be rebuilt (Fig. 9).

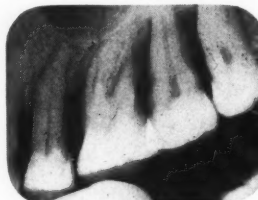


Fig. 9.—Bone destruction caused by pyorrhea.

10. Why couldn't the bridge be fastened to one tooth and done more cheaply?

Leverage of the unsupported end would wrench the tooth loose, and the bridge would soon be lost (Fig. 10).

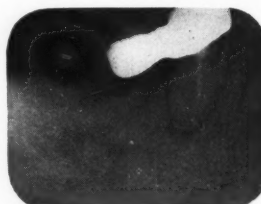


Fig. 10.—Leverage of unsupported end of bridge wrenches the tooth loose.

11. I haven't a decayed tooth in my mouth!

Cavities cannot be determined by routine examination alone. Roentgen examination might reveal unsuspected cavities which might otherwise be discovered too late (Fig. 11).



Fig. 11.—Cavities which often cannot be determined by routine examination alone.

12. How can a tooth not abscessed injure one's health?

An unfilled cavity is impossible to keep clean. It harbors germs and filth, taints the breath, and contaminates the food (Fig. 12).

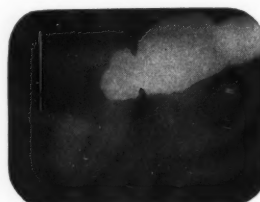


Fig. 12.—Unfilled cavity harboring germs and filth.

Fig. 13-A and B.—Result of waiting too long before bridge is constructed.

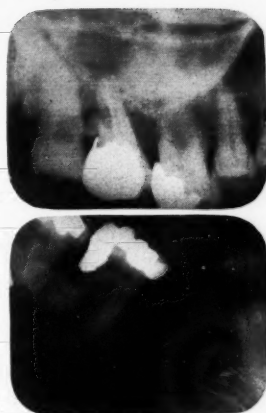


Fig. 14.—Lost contacts between the teeth.



Fig. 15.—Diseased teeth which caused stomach disorder.

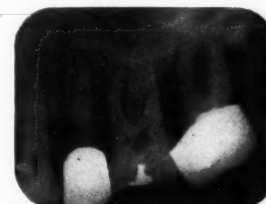


Fig. 16.—Residual root.

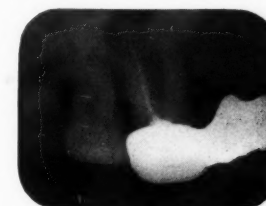
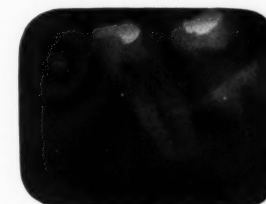


Fig. 17-A.—Deep cavity approaching the pulp or nerve of the tooth. If a filling were placed in this cavity without an insulating medium of cement, the pulp would possibly die from thermo-shock.



(See Fig. 17-B on next page)

13. *Why do you advise bridging in this tooth so soon?*

The opposing tooth elongates, induces decay and pyorrhea by lost contact, and the other teeth drift apart and are soon lost. The bridge maintains the arch and prevents drifting (Figs. 13-A and B).

14. *Why does food lodge between my teeth? I always have to use a toothpick after meals.*

Tight contacts between the teeth are lost by drifting apart or destroyed by decay, forming a filth tray which induces pyorrhea and hastens loss of teeth. Improper dentistry is another reason: overhanging fillings, poorly placed contact points or no contact points at all—these may be summed up as improperly placed fillings (Fig. 14).

15. *I have had a stomach disorder for months. Could my teeth cause it?*

Yes, when pus is swallowed and absorbed. Fig. 15 shows the teeth which were removed in a patient who had been under treatment by a stomach specialist for months. Prompt recovery followed extraction. Such cases are common.

16. *Would it do any harm just to leave this root in my jaw?*

Yes; such a residual root may produce an infection which can be carried in the blood stream to distant parts of the body to cause serious diseases of the heart, joints, muscles, and kidneys, for example. It may cause painful swelling, or an abscess of the jaw. In any case, it is always dangerous (Fig. 16).

17. *Doctor, why did you make an extra two-dollar charge for a cement base under this filling?*

The cavity was neglected until it became so deep that the nerve had to be protected from a large metal filling by insulating it with a cement base (Figs. 17-A and B).

(See explanation under heading 17 on preceding page)



Fig. 17-B.—Cement base in position before the cavity is finally prepared to receive permanent metal filling.

18. *I went to the dentist with a tiny cavity and he nearly ground the tooth all away. Why did he do that? So he could put in a larger filling?*

The infected dentin must be removed in order to sterilize the tooth completely and prevent recurrence of decay (Fig. 18).

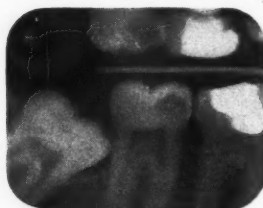


Fig. 18.—A, Pin-hole cavity, greatly spread out, undermining the tooth structure. B, Result of improper excavation of a cavity with decay under the filling.

19. *Why is there more danger in extracting one tooth than another?*

Upper molars have three roots which lie near the maxillary sinus. There is a great danger of breaking into the sinus and thus producing an infection which would make surgery necessary (Fig. 19). This is another argument for prevention.

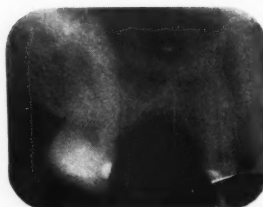


Fig. 19.—A, Root which was accidentally pushed into the sinus during extraction, making surgery necessary. B, Upper first molar that must be removed because of infection at root end. The close proximity of the sinus makes careful extraction especially necessary.

20. *I had a tooth extracted two weeks ago, and it doesn't seem to heal. Why?*

Sometimes broken pieces of bone process remain in the gums to irritate and delay healing. These should be removed at the time of extraction (Fig. 20).



Fig. 20.—Broken pieces of bony process which remained in the gums.

Fig. 21.—Bone destruction from traumatic tissue injury as a result of a sliver from toothpick which was forced deep into the tooth socket.

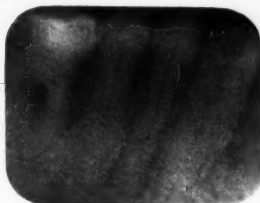


Fig. 22.—Spot shows evidence of infection many years after extraction.

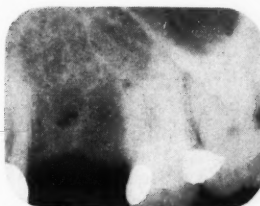


Fig. 23.—Rough, overhanging margins of fillings irritate the gums.



Fig. 24.—Septal bone destruction.

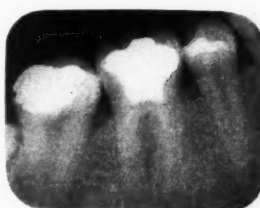
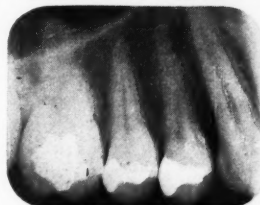
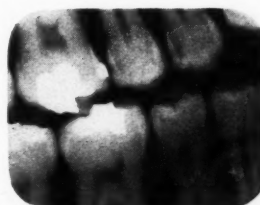


Fig. 25.—A, Beginning cavities on the proximal surfaces of the teeth, usually not discovered by routine examination alone; easily detected by roentgen examination. B, Result of early opening of these cavities and the placement of mechanically perfect restorations, showing normal form and contour with the proper gingival fit.



21. *I have a terribly sore tooth since I used a toothpick yesterday. Why?*

Unpolished toothpicks should never be inserted between the teeth. A sliver may be forced deep into the tooth socket, infecting the gums, causing soreness and pus, and the loss of the tooth. These slivers cannot be located by the roentgen ray (Fig. 21).

22. *I had my diseased teeth extracted but got no better.*

Extraction of the tooth does not always remove the chronic infection at the root end. Fig. 22 shows evidence of infection many years after extraction. The infection should be gently curetted at the time of extraction.

23. *Ever since this tooth was filled, the gum around it bleeds. Why?*

Rough overhanging margins irritate the gums, harbor food and bacteria, hasten re-decay and pyorrhea (Fig. 23).

24. *How does Vincent's infection affect the bone?*

Vincent's infection, which is an acute disease, may become chronic if it goes untreated and cause septal bone destruction (Fig. 24).

CONCLUSION

25. The dentist's greatest opportunity is in prevention, which means the early recognition of diseases of the teeth and the gums (Fig. 25). The series of typical questions asked by patients with the accompanying answers and illustrations should offer sufficient evidence of the need for propaganda in the field of preventive dentistry.

PRACTICAL SUGGESTIONS

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I. SPOT GRINDING

SOME expensive and complicated appliances have been put on the market to accomplish the simple act of spot grinding. The following technique has been routine procedure in our practice for a number of years and has proved efficient:

1. Dentures should be made as comfortable as possible by removing all points of impingement upon the soft tissues.

2. When seating dentures one should be careful to avoid the use of the word "naturally" to the patient.

3. The patient should open and close the mouth a number of times until the normal bite is ascertained.

4. With the dentures in correct occlusion the patient is instructed to keep the mouth closed until asked to open it.

5. The patient's lips are parted, and with a cement spatula a liberal supply of quick-setting plaster is placed in the bicuspid and molar regions.

6. The dentures, which are held together, are removed when the plaster has set.

7. Undercuts should be partly filled with wet paper or cotton. Mount on an articulator from which the set screw regulating the length of the bite has been completely or partly removed.

With the aid of carbon paper the high points are located and ground. This procedure is repeated until the occlusion is uniform.

9. The dentures may then be cleansed and returned to the mouth for the final check-up, and all high points that remain are located and removed.

The technique outlined here eliminates the frequent removal and re-seating of dentures, which is not pleasant and which consumes valuable time. It also eliminates the chance of getting false registrations which might occur in numerous closings.

The carbon paper may be more conveniently held by the use of the carbon grip described just below.

II. CARBON GRIP

Construction—Fig. 1 shows the details of construction of the carbon grip diagrammatically while Fig. 2 gives the corresponding photographic appearance of each of the parts.

A represents two pieces of 14-gauge, half-hard brass wire 6 inches long, united lightly at the ends with soft solder.

The wires conform in shape and size (*B*) to an average upper impression tray.

The handles (*C*) are formed of half-hard brass, gauge 20, width five-sixteenth inch, and length $6\frac{1}{2}$ inches.

A hinge (*D*) in two parts is made of some suitable, thin, easily-worked metal five-sixteenth inch in width.

E shows the two parts of the hinge riveted together.

At *F* the handles are secured to the hinge with soft solder; the tension spring (made of a clock spring) is in place, and the disc or saw separates the handles at *X* in Fig. 1, *F*.

The prongs and handles are shown in their relative positions for soldering (*G*). A thin piece of mica is slipped between the prongs at *X* in *G* to prevent the solder from uniting the upper and lower halves.

To release the prongs at the ends, a knife-point may be placed between the prongs near the end and held over a flame. The same process is repeated at the other end.

If desired, the carbon grip may be nickel-plated.

Advantages of the Carbon Grip—

(1) The grip prevents carbon paper from curling when wet, enabling the operator to carry the paper beyond the second molars. (2) Carbon paper is prevented from rubbing off on the patient's lips and the operator's fingers. (3) The carbon paper will last longer.

Uses of Carbon Grip—In spot grinding it is advisable to use the full-denture size carbon paper in preference to strips, as the patient is not so likely to bite sidewise.

The carbon grip will also be found useful (1) in grinding for traumatic occlusion, and (2) in relieving high points on fillings, inlays, crowns, bridges, and partial dentures.

III. CHILLING FORK

Because all plastic impression materials which are generally used require cold water to hasten the hardening, the device shown in Figures 4, 5, and 6 will prove a valuable adjunct in any dental office. It is simple in construction and operation, and is known as a chilling fork. It chills the impression uniformly and quickly. The fork may be attached to any tray by means of the slip-on attachment before or after the impression material is placed. It is connected with the bulb containing cold water

by means of a suitable rubber tubing, and the bulb may be pressed by either the patient, assistant or operator. Nine or more streams of cold water, depending on the number of openings made in the fork for this purpose, play upon the tray and impression material at the same time. A saliva ejector or dressing pan is used to take care of the overflow.

Fig. 4 shows the first steps in making the chilling fork. For prongs, brass tubing, the diameter of a bur shaft, and four inches long, is used.

Tubing one size larger and three inches long is required for the stem. A smaller piece is passed through the stem at *E* and soldered. The prongs are bent to conform in shape and size to the average tray. A large bur is passed up the stem at *C* and cut through at *E*. The short prong is formed of small tubing and soldered in at *C*; the two outer ends of the prongs (*B*) are closed, and the water outlets (*D*) are bored. The slip-on attachment (*F*) is then made, and soldered on the stem.

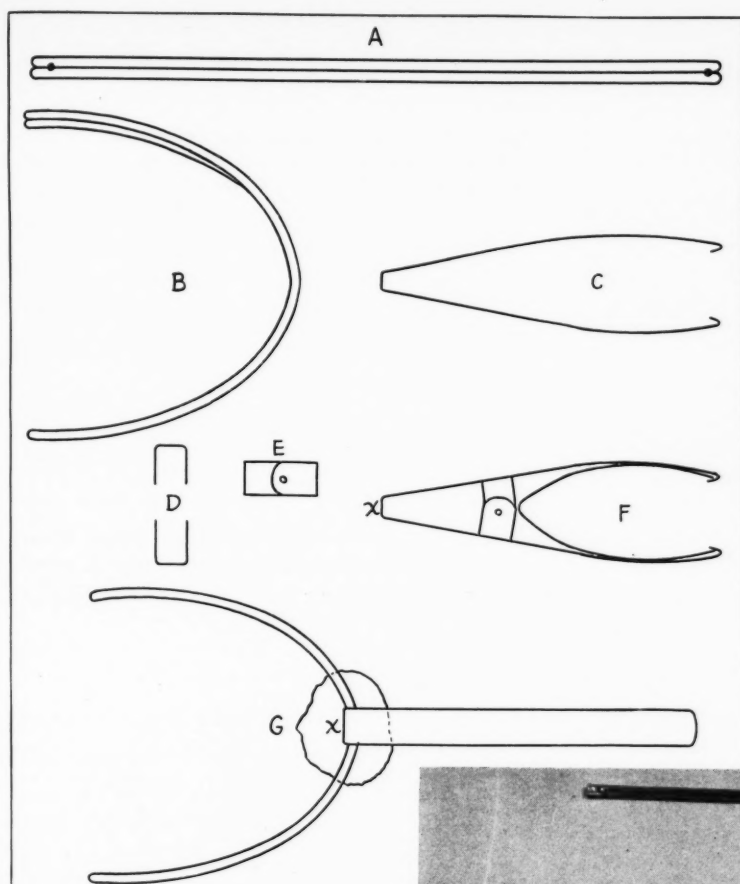


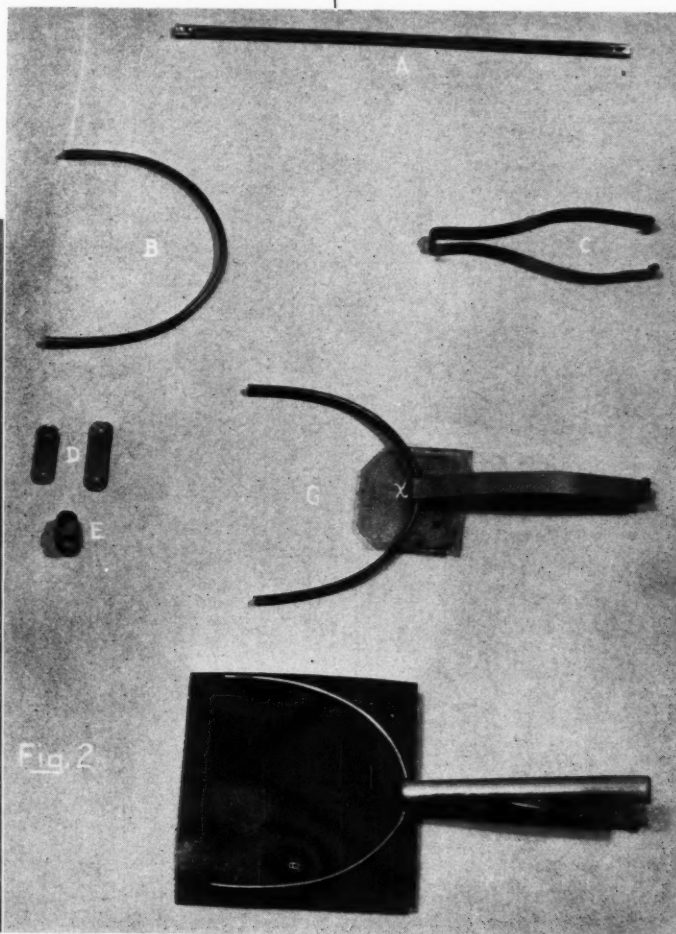
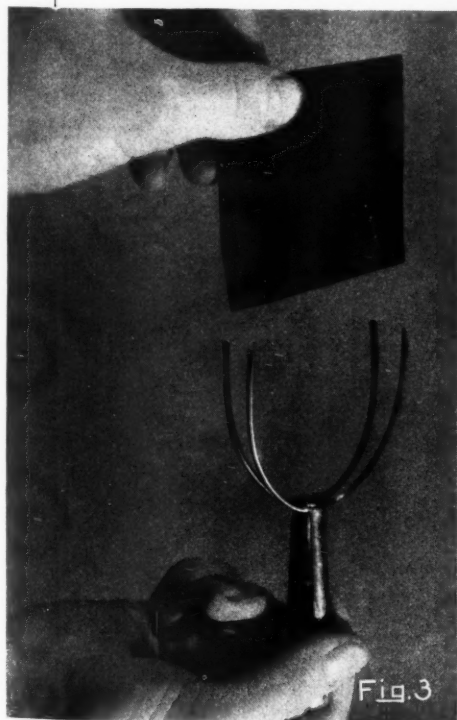
Fig.1

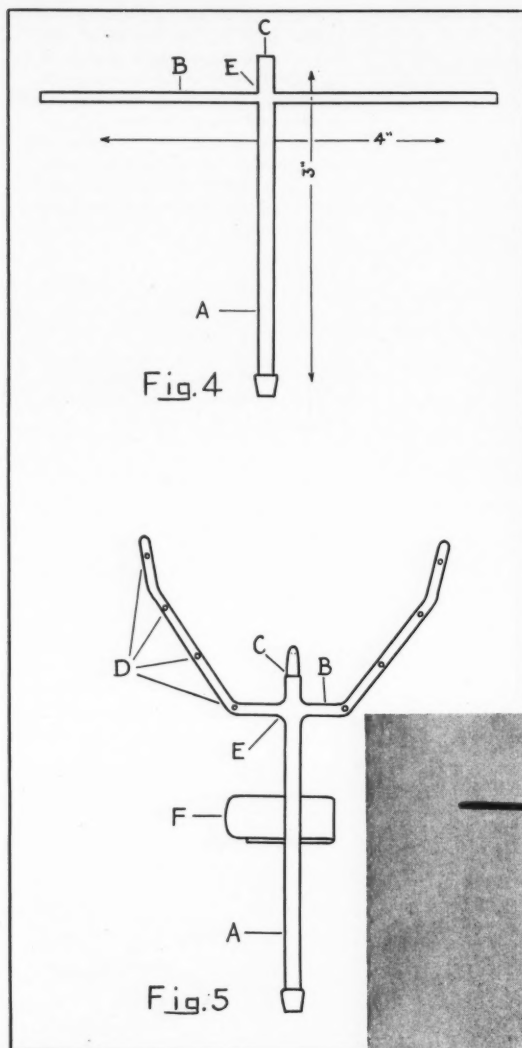
Fig. 1.—Detailed construction of carbon grip. A, two pieces of wire united at ends with soft solder; B, wires conforming in size and shape to an average upper impression tray; C, handles; D, hinge; E, two parts of hinge riveted together; F, point at which handles are secured to hinge; X, point at which disc or saw separates handles and mica is slipped between prongs.

Fig. 2.—Photographic appearance of parts of carbon grip. Letters correspond to those in Fig. 1.

Fig. 3.—Carbon about to be slipped between prongs of grip.

See Next Page



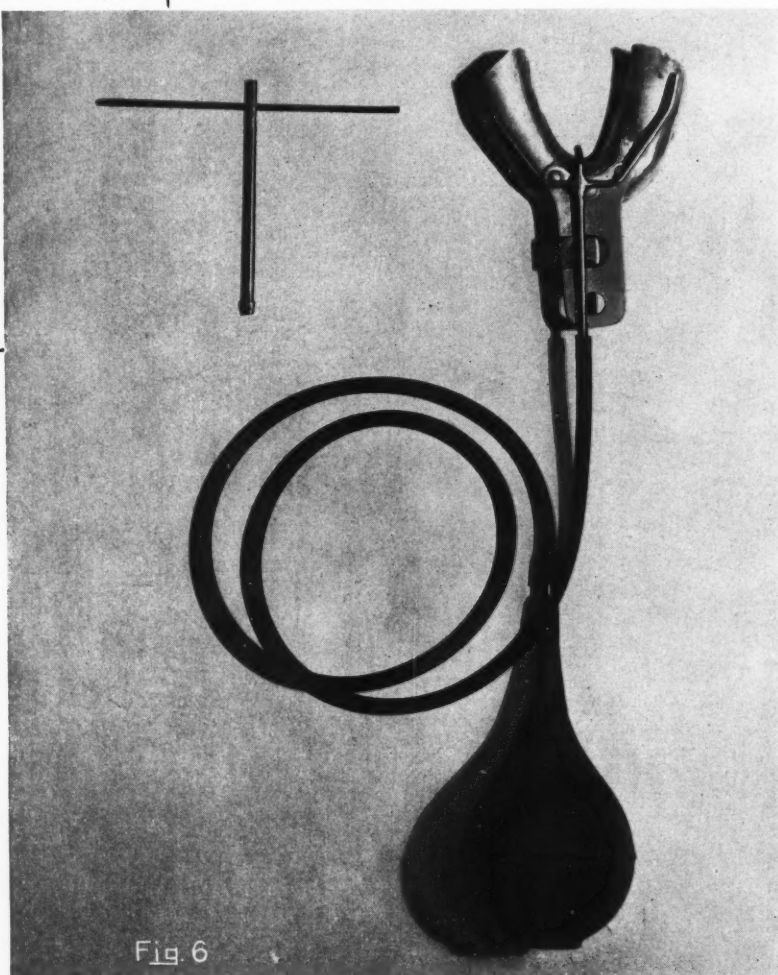


(See description on page 66)

Fig. 4.—First steps in construction of chilling fork. A, stem of fork; B, tubing for prongs; C, point at which large bur is passed up stem; E, point at which bur cuts through stem.

Fig. 5.—Chilling fork, actual size, complete. A, stem of fork; B, bent tubing for prongs; C, point at which large bur is passed up stem; D, water outlets; E, point at which bur cuts through stem; F, slip-on attachment.

Fig. 6.—Photographic appearance of chilling fork. Upper left-hand corner shows tubing before it is bent (cross-arm construction).



METHOD OF CASTING PIN AND INLAY IN ONE PIECE

R. E. GROETZINGER, D.D.S.

Chicago

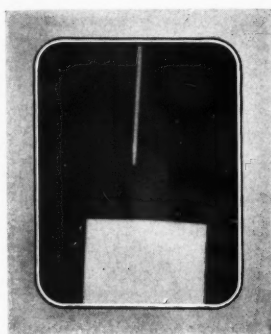


Fig. 1

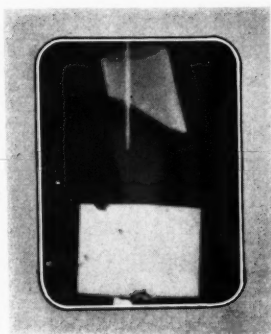


Fig. 2

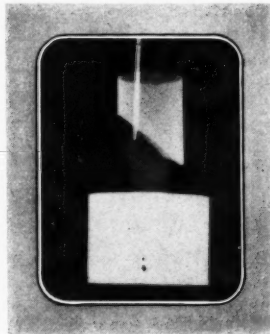


Fig. 3

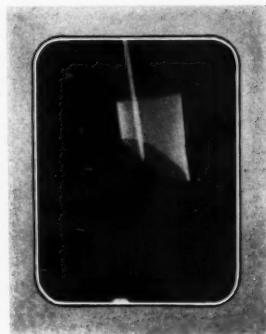


Fig. 4

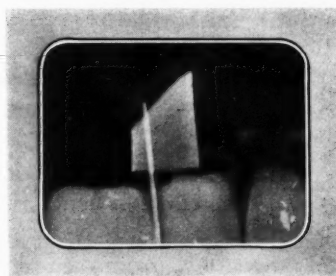


Fig. 5

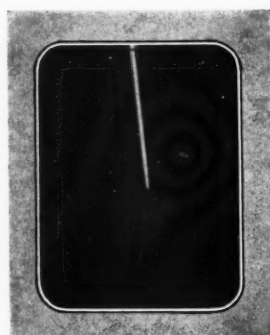


Fig. 6

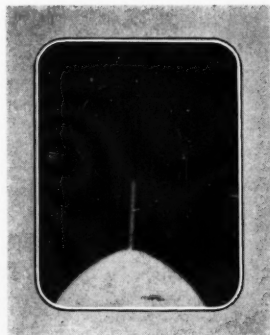


Fig. 7



Fig. 8

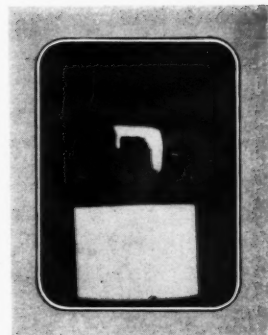


Fig. 9

STEP BY STEP PROCEDURE

1. A pin is fitted to the pin hole in the cavity (Fig. 1).

2. An open copper band is festooned and fitted to the case.

3. The band is filled with inlay wax (Fig. 2).

4. The band is carried over the pin and tooth, getting a perfect adaptation (Fig. 3).

5. The pin is stuck with sticky wax to prevent elongation (Fig. 4).

6. The cup is removed from the tooth, and the desired indirect impression is had (Fig. 4).

7. The impression is then chilled to a temperature of 96° F.

8. With a fine camel's hair brush, a thin batch of inner investment is mixed for painting the cup impression. The cup is filled to the top, and the impression is allowed to harden for three or four hours (Fig. 5).

9. The wax is warmed in water and the copper cup removed from the model (Fig. 6). The pin is removed by rotation.

One now has an exact duplication of the tooth with the hole in the same relationship as in the tooth.

10. The model is waxed to the tooth form and the sprue mounted (Fig. 7).

11. The model is soaked in water and painted with an inner investment.

12. The ring is mounted; the model is invested, and the wax eliminated. Then the casting is done. The gold flows into the hole which was made by removing the pin, and an exact duplication of the cavity and tooth is thus obtained (Fig. 8). The pin-inlay is thus cast in one piece.

Fig. 9 shows the finished inlay in position.

The Editor's Page

WHAT of the future of dentistry? Whither are we headed? Does the emergent evolution of dentistry have a pattern or does it approach Tomorrow with uncertainty and dread—unplanned?

Ahead are shoal waters and there rise the jagged rocks that may destroy us. They loom dark and ominous. They are what? State dentistry, Insurance dentistry, Commercialized, non-professional dentistry. Whether we escape, whether we survive or are destroyed, will depend upon our pilots. The profession, like the world, hungers for leadership that is forward-looking, alert, strenuous. We have such men. Here and there throughout the country they have risen and carried out a program with intelligence and vision. Some have spread the gospel of mouth health in their communities; others have interested philanthropists in the cause of dentistry; still others have worked with the professional organizations with purpose. The quality of talent within our ranks is second to no other.

How may these men of abilities, these leaders, contribute further to the science and the art of the profession? What may they do to carry us over the reefs and through the rough weather that is ahead?

First, let them put aside all pettiness, all small-mindedness, all personalities, all sectionalism, and pool their intelligence to approach the common problems.

Second, as men of science they should follow the dictum of Pasteur and "Hang their preconceptions in the cloak-room." Let them study the *facts* of dental practice and dental life.

Third, from the swirling contemporary life about us let them see the significant and plan a future. Above all, let them plan!

Today the world pulses and throbs from maladjustments. Everywhere chaos reigns. Men are hoping for security; for a rational, purposeful future. Our economic hope is pinned to planned living—an intelligent con-

trol of economic forces. The Russians were the first with their Five-Year Plan. Now we have seized the idea for our own. Mr. Hoover has sketched a "Twenty-Year Plan" of American individualism, and the present Governor of New York has recently said, "Perhaps the day is not far distant when planning will become a part of the national policy of this country." (*Survey Graphic*, February, 1932.)

Why should not American dentistry have a plan? Why should not our leaders, like the leaders in government, economics, finance, chart a proposed course for us to follow?

For instance, let us consider a Five-Year Plan for dentistry. What might it include?

1. Improvements in dental education (such as the realistic teaching of dental economics).
2. Changes in dental legislation (reciprocity, perhaps).
3. Standardization of some technical procedures (something like the work that has been done to standardize dental metals).
4. A vigorous program of prevention.
5. Exposure of quackery (in high places and low).
6. Legitimate and sound methods to draw the "non-dental consuming" 80 per cent of the population into dental offices (and blatant advertising may *not* be the answer).
7. Finally, a plan to make these people not only dental-minded but also "dental-monied."

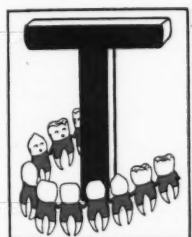
It should be remembered that many may have the desire to purchase the services of a dentist but not an income elastic enough to buy anything over and beyond the bare necessities of life and a few pleasures. "Dentistry for the Masses" is more than a slogan; it is a serious economic problem.

So here, stark naked and in bare outline, is the framework for a "Five-Year Plan" for Dentistry. That there are better plans, we have no doubt; that there are many that are more comprehensive, there can be no question.

Upon this framework may our leaders build and carry on.

THE CAVE PEOPLE

Story and Drawings by ELMA J. MILLER
Liberty, Arizona



THIS is going to be awful," thought Dicky, as he sat in the dentist's chair—rigid, with small fingers clenched tight over the arms of the chair. The nice

Man-In-The-White-Coat smiled down at the boy in his tense position.

"How are you, sonny?"

"My tooth aches," mumbled Dicky. "Ith un 'ere," he added, filling his mouth with his fist as he showed the dentist just where the ache was.

"Have you ever heard of the little Cave People?"

"No. Who are the Cave People?" asked Dicky full of interest and wonder.

"Each one of your teeth is a little Cave Person. Can you guess how they got that name?"

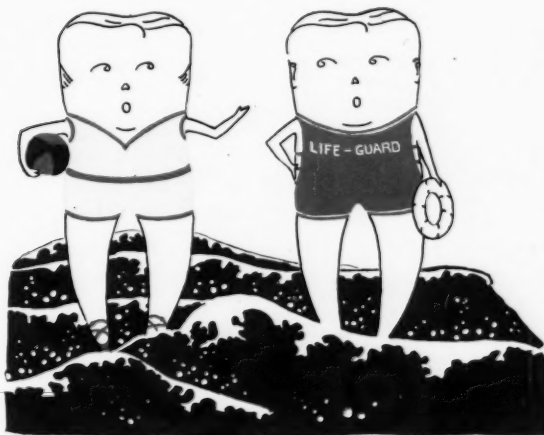
Dicky frowned for a minute and then looked delighted because he guessed the answer.

"I know. 'Cause they live in my mouth and my mouth is all dark like a cave when it's closed."

"That's right," said the Man-In-The-White-Coat, and Dicky was so proud of himself as he relaxed into a comfortable position, his head resting on the back of the chair, and his interest fully aroused.

"Now, I want to see how those little Cave People are getting along, so open the cave door wide and let all the light go in."

"But please," begged Dicky, "first



"And how they love to swim!"

tell me how many Cave People there are in my cave."

The nice Man-In-The-White-Coat reached for an explorer as he answered Dicky's question, "There are twenty of these little Cave People now, but later when you get older there will be more, and those will be bigger, too. They've always lived in a cave; it's their home. There they eat and sleep, play and work.

"The very first thing they do in the morning is to scrub themselves until they are so clean they shine. This makes the air in the cave fresh. And they all feel so happy because they know how beautiful they look after their scrubbing. Oh yes, and they scrub the roof of the cave and their cover, the tongue, too.

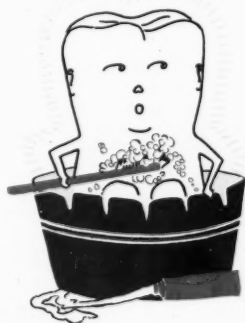
"Then the mother goes to market and brings home their breakfast. First, they are going to have cod liver oil, then a glass of orange juice and maybe some cereal or an egg and toast. And they always have milk. Now the mother knows how strong it makes her children to eat things that are hard, like the crusts of the bread, which have to be chewed and chewed and chewed because that's good exercise for them. Some of them are a little lazy though, and they cry because she didn't bring them soft things to eat which would not have to be bitten into at all but just swallowed right down fast. The mother tells them what fine, strong teeth-children ("You mean Cave Children," inter-

rupted Dicky) they will become if they'll eat their breakfast, so then the little lazy ones stop crying and eat.

"These little Cave Children do not leave the cave to play; but they don't even want to. *Such* exciting things happen right at home. Before and after breakfast they put on their bathing suits, because they know a great ocean wave is going to come rolling into the cave, and when it does the sides of the cave bulge out." And the Man-In-The-White-Coat made a face to show Dicky how.

"And how they love to swim! Sometimes it's only a little wave; and once in a while no wave of water enters the cave at all. Then they are awfully disappointed, and slowly take off their bathing suits hoping that it still might come in."

"That happens when I don't brush my teeth and rinse my mouth, doesn't it, huh?" chimed in Dicky, showing that he was following the story.



"They are so clean they shine"



"They are ready for school"



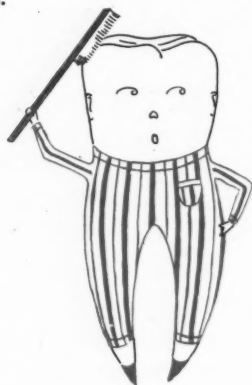
"There are so many things to learn"

"But in the mornings when an extra large wave comes pouring into the cave, the children are so excited they roll and tumble and dive, until the water has disappeared out the back door of the cave."

"Oh, no!" objected Dicky. "You mean the front door. I don't swallow the water; I spit it out."

"Oh, of course, you're right," the Man-In-The-White-Coat had to admit before he went on with the story.

"Well, now, the Cave Children's hands and faces are clean once more; and as soon as they change their suits, they are all ready for the school lessons."



"To wash even on top of their heads"

"They study and recite their lessons at home. There are so many things to learn—how to wash themselves on all sides and even on top of their heads and the roof of the cave, and to keep their brushes clean, and to remind their mother when it becomes too soft so that she will buy a new one the next morning when she goes to market. But most important of all is to remember to take a bath every morning as soon as they get up and every night just before they hop into bed!"

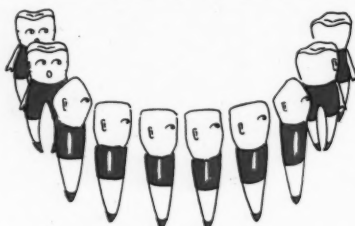
"A tooth bath?" asked Dicky.

"Yes, a tooth bath, besides the regular bath, of course."

"Sometimes the Cave Children are so tired they just pretend to forget all about their bath at night. But as soon as they're tucked into bed, they begin to be so sorry because they don't feel

nice and clean; and the air in the cave isn't fresh then. How sad the Sand Man feels to sprinkle his golden sand on little children who are not clean from their heads to the tips of their toes, and inside the little cave too.

"Every once in a while mother takes them to the Man-In-The-White-Coat. There the Cave Children, some with flat heads, some with sharp pointed heads and some with straight heads, all line up for him to inspect them. He scrubs them with a brush that goes 'round and 'round, until they shine. They are so proud of themselves. The-Man-In-The-White-Coat looks at them very carefully to see whether they are growing strong and

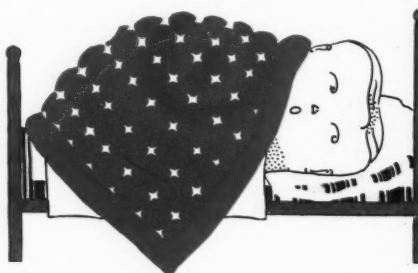


"All line up for him to inspect them"

healthy, and to see whether there are any new members living in the cave.

"One day one of the little Cave Children began to be so lazy he insisted on soft food so he would not have to do any work when he ate. And he stopped scrubbing himself every morning and night until his skin became dark and darker. And how bad the air began to smell in the cave! And when the waves came rushing into the cave he'd just pull the bedclothes up to his chin and refuse to let the clean water touch his little black body. It made everyone so unhappy to live in the cave with him.

"Then one morning he felt a pain inside of himself. He cried and cried



"He'd just pull the bedclothes up to his chin"

and cried; and he promised his mother he'd be good again if only she would make the pain go away. So mother took him to the Man-In-The-White-Coat and he gave him a good bath;

but there was a black spot on his head that just would not wash off. It hurt the lazy little boy a great deal to have his head fixed white and new. He was sorry he had been so lazy and made everyone unhappy and his home so untidy. He decided never again to forget to take his two scrubbing a day.

And he ran home fast to tell the other Cave Children that they better not forget either. So now he is just as clean as the others and he's growing strong, too, because he eats his breakfast and isn't afraid to eat hard food too, but not too hard; just hard enough; and he never forgets his scrubbing with a hard brush and soap that comes out of a tube like tape but soon gets all lathery while he brushes himself, and to use plenty of water too. It makes him so happy to be so good and never get scoldings or toothaches."

The nice Man-In-The-White-Coat laid down his instruments.



"He cried and cried"

"And he ran home fast"



"There!" he said. "We're through fixing that lazy little Cave Child's head."

Dicky laughed happily as he slid out of the chair.

"None of my Cave Children are ever going to be lazy again," he promised as he skipped off home.

Reprints of this article, in full color, may be obtained at the following prices:

50 copies	\$ 3.00
100 copies	6.00
500 copies	25.00
1000 copies	40.00

Remittance must accompany order. Write to The DENTAL DIGEST, 1125 Wolfendale Street, Pittsburgh, Pa.

DENTAL ASSISTANTS AND SECRETARIES

ELSIE GREY

Have you a particular method, or have you a time saving short-cut that lightens the work or makes for greater efficiency in the office? You may help many who are beginners—and you know how you needed help during your first few months in a dental office. Perhaps you need help now. Write to Elsie Grey—she will help you.

Address all communications to Elsie Grey, in care of THE DENTAL DIGEST, 1125 Wolfendale Street, Pittsburgh, Pa.

Dear Miss Grey:

What type of letter should be sent to a patient who has started dental work and has failed to come to have his work completed?—T.S.

A telephone call in such cases is preferable to a letter. There may be a variety of reasons for the absence, such as illness, death, removal, dissatisfaction, lack of finance, or simple negligence. The type of letter to be written would depend on the type of patient; how long it has been since the last appointment; and how far the work has progressed. A blanket letter is given here, but such letters are not advised unless the patient cannot be reached otherwise:

Dear Mr. Blank:

Our records indicate that you failed to keep your last appointment on _____, and that your dental work was not completed.

We are desirous of aiding you to maintain your teeth in good condition. May we bring to your attention that neglect often causes distress or loss of the teeth?

Will you not telephone us for an appointment at your convenience so that the work which was started may be completed?

Anticipating a prompt reply, we are,
Sincerely yours,

My dear Miss Grey:

What are the various methods of sterilization? I desire to know something more than just boiling instruments. When are things "sterile"?—F.H.

Sterilization may be classed under two headings:

I. Physical

A. Heat: Dry, moist, steam.

1. Dry heat may be hot air or a flame through which instruments are passed.

2. Moist heat sterilization is the boiling process of boilable materials in boiling water for ten minutes.

3. Steam sterilization is done under pressure, such as is possible with an autoclave sterilizer, used for linen, dressings, rubber goods.

B. Sunlight, which will destroy non-spore-forming bacteria in several hours.

C. Ultraviolet rays, which destroy bacteria in from five seconds to five minutes. These rays are present in sunlight.

II. Chemical

A. Germicides, such as carbolic acid, mercuric chloride, potassium permanganate, a compound solution of cresol, and chlorine, destroy bacteria.

B. Antiseptics, such as thymol, boric acid, weak solutions of germicidal agents, and prepared commercial formulas, prevent further growth of bacteria but do not kill them.

C. Deodorants: Any substance disguising odors, either commercially prepared or weak solutions of creosols, or chloride of lime.

Instruments and equipment are called "sterile" when every precaution has been taken to destroy completely all germs on them so that they no longer contain any living microorganisms.

An answer to "Perplexed" whose letter was published in the December issue of the old DIGEST.

Dear "Perplexed":

I have just read your letter and also the reply from Miss Grey. You have a real problem and I am not satisfied with that brief reply, and I know you are not . . . I have no doubt you are worth much more than fifteen dollars a week and any dentist employing you would expect you to be worth much more than that.

Dentistry at present is all out of joint, so to speak; everything has gone "hay wire" in current slang. The average dentist has his hands full and more than full to make ends meet because of no particular person's errors or misdeeds. I have been without an assistant for more than a year because I could not afford to keep one at a wage for which she could afford to work. I believe that a great many dentists have done the same, and that many others have kept their assistants when they could not

afford to do so, but were too proud to advertise the fact, or let the public form such an impression as would follow should they let the assistant go.

Why not marry a dentist and assist him? Between you, you might make a better living than either one could do alone. But do not marry just an average dentist. If you do, your troubles will have just begun. Please excuse me for "butting in" and presuming to offer advice. Believe me when I say that I cannot see any immediate improvement although I am still optimistic and hopeful.—S.F.H., D.D.S., Iowa

GLEANINGS

TEETH NOW A PART OF THE BODY

Years ago the teeth, though an integral part of the body, were treated as though they had little, if any, connection with it. The majority of dentists at that time believed the enamel an inert inorganic mass which, once formed, remained a more or less fixed tissue. There is now a growing belief among research workers and throughout the dental profession that the teeth constantly reflect bodily conditions, and that this systemic influence on dental tissues operates not only while the teeth are calcifying but also throughout life. The clinical experience of every practicing dentist shows this to be the fact, but the exact process by which it occurs is not entirely understood.—SECCOMBE

SHALLOW SULCI MOST EFFICIENT

The study of several such experiments will demonstrate that present-day "anatomical teeth," with reasonably shallow sulci, will not only serve our purposes well and truly but will meet all of the requirements imposed by nature.—TOMPKINS

MALOCCLUSION

The importance of supervising the normal shedding of deciduous molars and the eruption of the bicuspid cannot be overestimated, for unless changes occur in that area in a normal manner, malocclusion of the bicuspid and molars is certain to occur.—WILLETT

COMING FEATURES

SAMUEL CHARLES MILLER, Assistant Professor of Periodontia at the New York University College of Dentistry, will present an article, "Diagnosis of Lesions of the Oral Mucous Membrane." Fourteen colored plates will illustrate this feature.

SIDNEY S. JAFFE, of Washington, has the distinction of having presented one of the most popular table-clinics at both the Memphis and the Chicago meetings. He has under preparation an article on "Immediate Denture Restoration" which will appear in an early issue of THE DENTAL DIGEST.

LETTERS

Let us congratulate you on the really beautiful magazine that has been issued for this year. I am not in the habit of patting people on the shoulder, but you have really evoked my deepest appreciation of a very splendid publication.

It is to be hoped that the good work thus started can be carried to still greater heights of realization. Best wishes to you.—O. F. E. VON HOYA, D.D.S., *Detroit*

Allow me to congratulate you on the physical appearance and editorial policy of THE DENTAL DIGEST. It reflects much thought, planning, and work, and is in keeping with modern ideas of journalism.—JAMES A. BRADY, D.D.S., *Philadelphia*

What a magazine the new DIGEST is! It represents the greatest advance in dental journalism that has taken place in the last twenty years. Nothing but the greatest of success could come to such a magazine. I extend my sincere congratulations.—E. L. JONES, JR., D.D.S., *Albany*

I have before me a copy of THE DENTAL DIGEST in its new form, and I am sure that you will be interested in a librarian's reaction to the innovation. There is no doubt that in many ways the appearance of the journal has been greatly improved and beautified. May we suggest, however, that the size of the new volume is a good deal too large in proportion to the number of pages. At the same time, the size will add considerably to the cost of binding and the resulting volume will be too thin. We feel that a reduction of the size to 7" x 9" would be advisable.

We hope that you will take our suggestion in the spirit in which it is offered.—ALFRED L. ROBERT, *Medical Librarian, Columbia University, College of Physicians and Surgeons, New York*

Might I, at this time, add my little say to the multitude of letters of approval and encouragement which you are doomed to receive following the publication of the first issue of the new DENTAL DIGEST? I am of the opinion that such a fine addition to the many good magazines of our profession cannot go unnoticed or unsung, and am certain that so many letters of approbation will be received by you that I hasten to forward mine.

The plane upon which dentistry rests in this, or any other country, does not depend so much upon what the few shining marks are accomplishing, nor upon the status of the advanced workers in our dental colleges, but it is gauged by the daily work and successes of the 89 per cent of general practitioners. The remaining 11 per cent can and must lead the way, but if their work is to accomplish its desired end, it must be placed before the general practitioner in such a way that it is devoid of all scientific reasoning, condensed into a quickly grasped technique presented in logical sequence, and aided by profuse illustrations. This, I am pleased to see, is what your new publication is so definitely doing.

You are to be congratulated, and the profession should receive you with open arms.

I wish you all the good things you deserve, and that your most healthy child may gain in strength and alertness.—ROSWELL A. HOGUE, D.D.S., *Plattsburg, N. Y.*

A smart Chinaman said that one picture was as good as 50,000 words. Certainly those pictures and plates in THE DENTAL DIGEST have excited the dentists in this neighborhood—they simply made their eyes pop out.

There is distinction stamped all over this first number. I can't compare it with any other dental journal because it is unique in its particular field. It's all dentistry and yet entirely different from *Oral Hygiene*.—FRANK A. DUNN, D.D.S., *Cleveland*

I am more than delighted with the first issue of the new DIGEST. Those illustrations almost make table clinics out of the magazine.

I predict a successful future for this new publication.—H. E. SNYDER, D.D.S., *Columbus, Neb.*

"Man must serve his time at every trade but one; critics are ready-made."

What I think about the new DENTAL DIGEST: Congratulations for evident intention to do something different and beautiful; congratulations for leveling your informational guns at the general practitioner, from whom and around whom all planets dental reflect and rotate. Keep them there; congratulations for departures editorially. I wish you all success.

As a book the magazine is a little too big—unless you carry more pages. The paper quality is certainly first-class, but too heavy and too stiff. The cuts are unnecessarily large, and now please hear me: I do not like the idea of numbering pages at the bottom. I do not like it at all. In fact, I dislike the idea. It builds fire under my disposition. It reminds me of such things as people who drive on the left side of the road. So smaller book, limp paper, number pages at the top.

I like the color, the clear cuts, and the easily read print. It is the most beautiful dental magazine I have ever seen.—S. A. ALLEN, D.D.S., *Glendale, Calif.*

I have heard many fine compliments regarding the new DENTAL DIGEST. You should be proud of your accomplishment.—THOMAS P. RYAN, D.D.S., *Minneapolis*

Please accept my congratulations on the new departure in dental magazines. Color is certainly a big help in rapidly digesting the aims and ideas of the author.

The coupon page also appeals, as I intend to preserve the copies of the magazine carefully. Why not prepare for sale a cardboard box in which to file the numbers, such as is used for the various publications of the A.M.A.?—W. J. REAM, D.D.S., *Akron*

I received a copy of your DENTAL DIGEST this morning and in reading over several articles, I find it very valuable and instructive. Also, my assistant, who is a graduate nurse, approves very highly of your paper. As she says, no matter what you have gone through, it is a good stunt to renew reading material such as your paper contains frequently, thus keeping it fresh in mind, and I guess she is right.—J. SEWARD WILSON, D.D.S., *Bristol, Conn.*

Just looking over your first issue of THE DENTAL DIGEST. Let me say I have only superlatives to express my admiration of this first number.

I trust that the future will be rosy, that the success of the magazine will continue, and that you all may be happy in bringing out something new in the way of a

dental publication.—DON MOSHER, D.D.S., *Kansas City, Mo.*

THE DENTAL DIGEST came and conquered. It's a great piece of work and the future looks real rosy. That color work revolutionizes dental literature.—JOHN J. JAFFIN, D.D.S., *New York*

Permit me to congratulate you upon your first edition of DENTAL DIGEST.

It is the most attractive dental publication I have ever seen. My best wishes for your continued success.—ROY M. WILSON, D.D.S., *Chicago*

My first copy of the new DIGEST came yesterday and it certainly is a beauty.—HAROLD O. BROWN, D.D.S., *Rochester*

The first number of THE DENTAL DIGEST is at hand and I am extending to you my sincere congratulations. The composition, layout, and paper stock are most unusual and are a distinct advance in dental journalism.—CLAYTON H. GRACEY, D.D.S., *Detroit*

Will you accept my most hearty congratulations and best wishes for your excellent DENTAL DIGEST? The first issue was very informative, well laid out, and attractive in appearance. May its subscribers multiply rapidly!—HAROLD A. SOLOMON, D.D.S., *Buffalo*

I wish to congratulate you upon the attractive issue of THE DENTAL DIGEST just received. I am pleased with the simple, brief, yet effective style of presenting your subject matter which, I believe, will be far-reaching in its efforts of helpfulness to the profession.—CARL J. GROVE, D.D.S., *St. Paul*

Allow me to congratulate you. The first issue of the new DENTAL DIGEST is just what I have been hoping for, for a long time: the subject matter condensed, but still perfectly clear and explicit; the illustrations the most beautiful I have ever seen in a dental journal. If you, in the future, hold to this standard of excellence, the dental profession will owe you an eternal debt of gratitude. I was especially interested in the articles on pyorrhea and inlay expansion technique. I hope you can some time soon give us an article on the complete technique for the indirect method of making inlays.

I predict for your periodical an immediate and wonderful success. May it live long and prosper!—J. E. BANNER, D.D.S., *Mount Airy, N. C.*

The new DENTAL DIGEST is the best dental journal I have ever seen.—F. D. RADCLIFFE, D.D.S., *St. Louis*

Excellent! I admire your progressiveness and courage, especially at this time.—H. W. HICKS, D.D.S., *Boston*

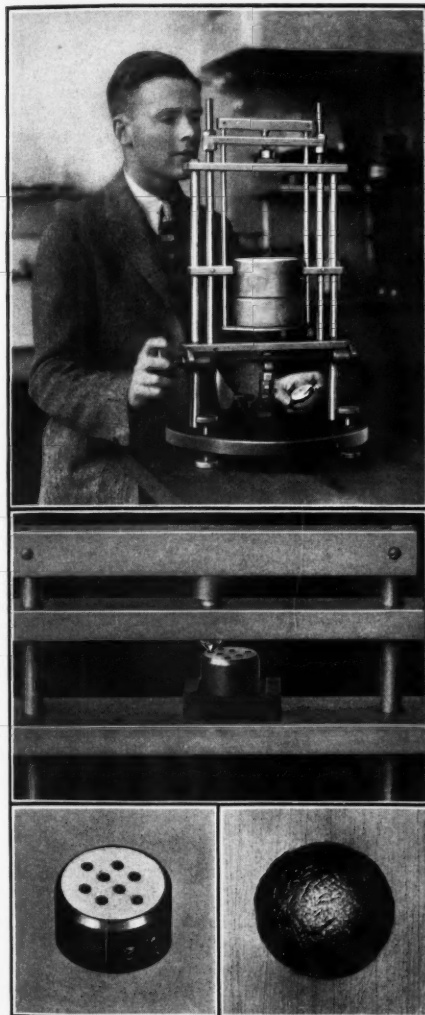
I wish to congratulate you on the first issue of the new DENTAL DIGEST. In the event that subsequent issues are equally as good, the new DIGEST merits the support of the entire profession.—C. R. MCFARLAND, D.D.S., *Chicago*

I am exceedingly well pleased with the first copy of the new DENTAL DIGEST which I have just received. I wish to commend the large format of the magazine. The illustrations are exceptional. It seems to be everything that it promised to be.—R. HINRICH, D.D.S., *Bellwood, Ill.*

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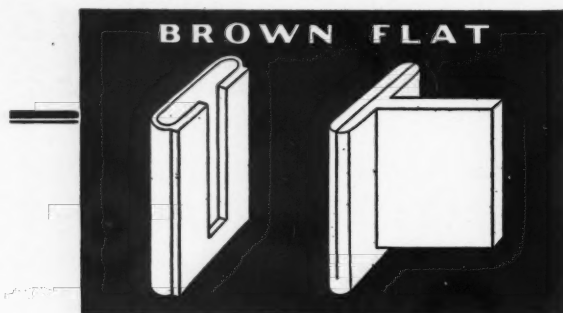
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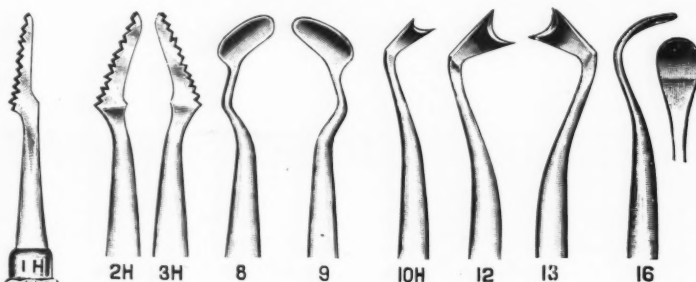
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MERWIN B. MASSOL, *Publisher*

ABOUT OUR CONTRIBUTORS

MOSCOW BRANCH CARTER received his D.D.S. from Vanderbilt University in 1896, and his daughter, Rosalie Carter, in 1924. They are members of the Seventh District Dental Society, The Tennessee Dental Association, and the A. D. A. Doctor Rosalie Carter is also a member of the Association of American Women Dentists and the National Federation of Business and Professional Women's Clubs. Doctors Carter have a general practice in Franklin, Tennessee. This is their first published article.

M. HILLEL FELDMAN is the author of *A Manual of Exodontia* (Philadelphia, Lea and Febiger, 1926; ed. 2, 1930. Doctor Feldman received his D.D.S. from New York University in 1909. His dental practice at 730 Fifth Avenue, New York,

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JOSEPH BASIL JENKINS is the author of *The Group Plan and Dental Economics* (in preparation), and is the Director of the Jenkins Dental Group. His practice is limited to roentgenographic diagnosis, exodontia, and oral surgery, at 1006 Medical Arts Building, Oklahoma City, Oklahoma. Doctor Jenkins received his degree in 1918, from the Kansas City Dental College. He is a member of Psi Omega, Omicron Kappa Upsilon, and the A. D. A.

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MISS ELMA J. MILLER, of Liberty, Arizona, is a professional artist. Miss Miller studied at the Chicago Academy of Fine Arts, The New York School of Fine and Applied Arts, and the Otis Art Institute, of Los Angeles, California.

CARROLL W. STUART received his D.D.S. in 1912; B.S. in 1927; M.S. and M.D. degrees in 1929 from the University of Illinois. He is a member of the Chicago Medical Society; Illinois State Medical Society; American Medical Association; Chicago Dental Society; Illinois Dental Society; American Dental Association; Phi Beta Pi Medical Fraternity; Delta Sigma Delta Dental Fraternity. He taught oral surgery from 1920 to 1924 at the University of Illinois Dental School, and during the Great War was Oral Surgeon at Embarkation Hospital No. 1, Hoboken, N. J. At present he is on the Bacteriology Staff of the medical department of the University of Illinois in the capacities of teacher and research worker. Doctor Stuart is engaged in the practice of oral surgery at 108 North State Street, Chicago.

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